

50.376
1957
p.2

50376
1957
2-2

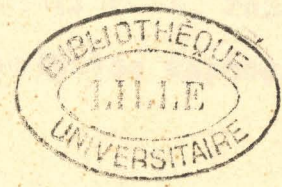
THÈSE

présentée à la Faculté des Sciences de LILLE
pour obtenir le grade de Docteur en Sciences Naturelles

par

Emile DELAHAYE

Le Phytoplancton et les Algues microscopiques
épiphytes des eaux douces du Nord de
le France



Volume II

Cartes, diagrammes, représentation
des principales espèces

1957

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du Nord de la France

Volume II

Cartes, diagrammes, représentation
des principales espèces

1957

CARTES
et
DIAGRAMMES





la Plaine de Marant

Marenja

Brimeux

Marles sur Canche

le Mont à Flot

BU LILLE

7



les Prés des Pauvres 15,6

Rue des Amours 20,1

Enferme du Loup 21,0

18,6

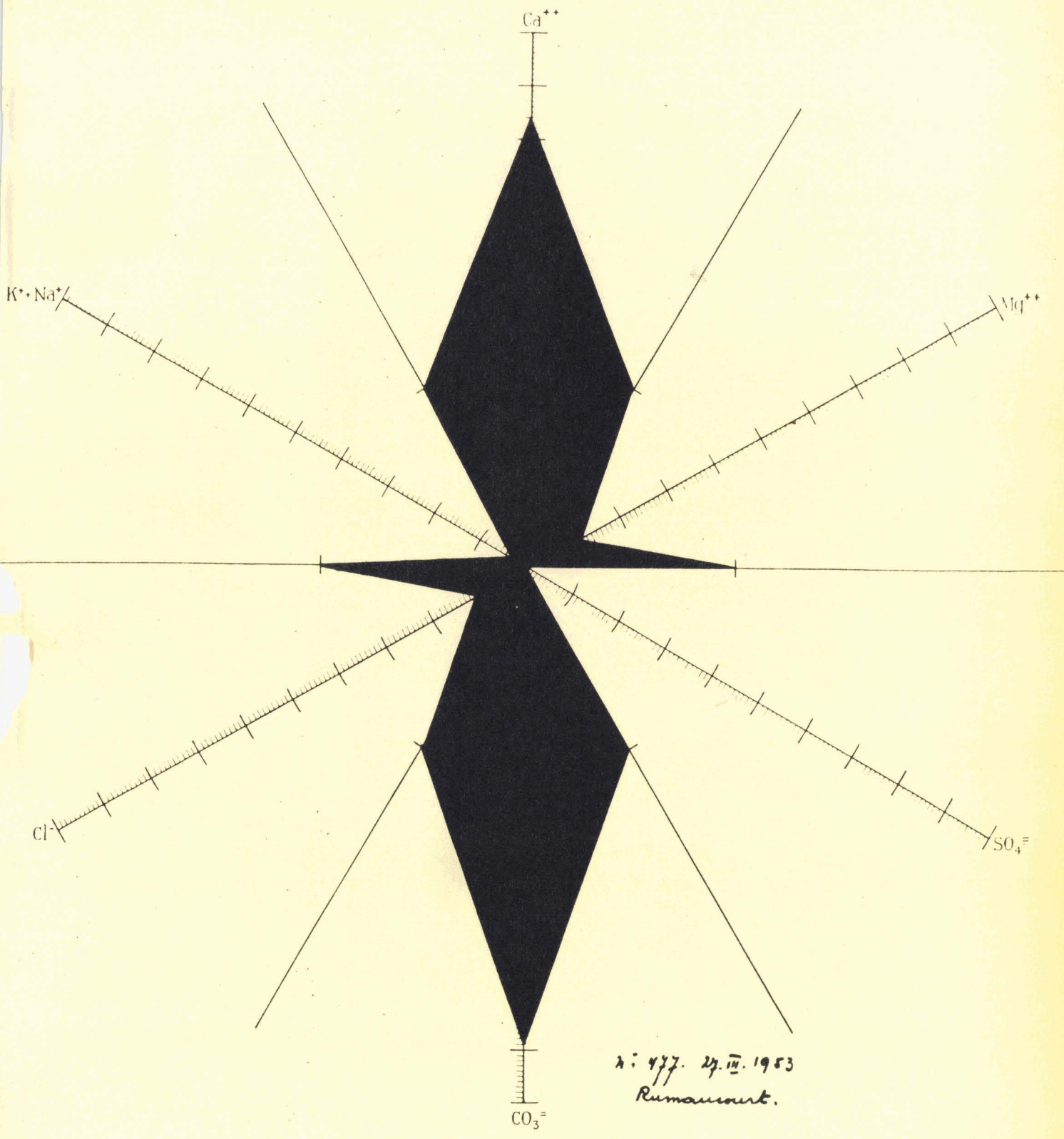
19,9

la Fontaine Bouillon 17,4

RUMAUCOURT

9

27-III-53

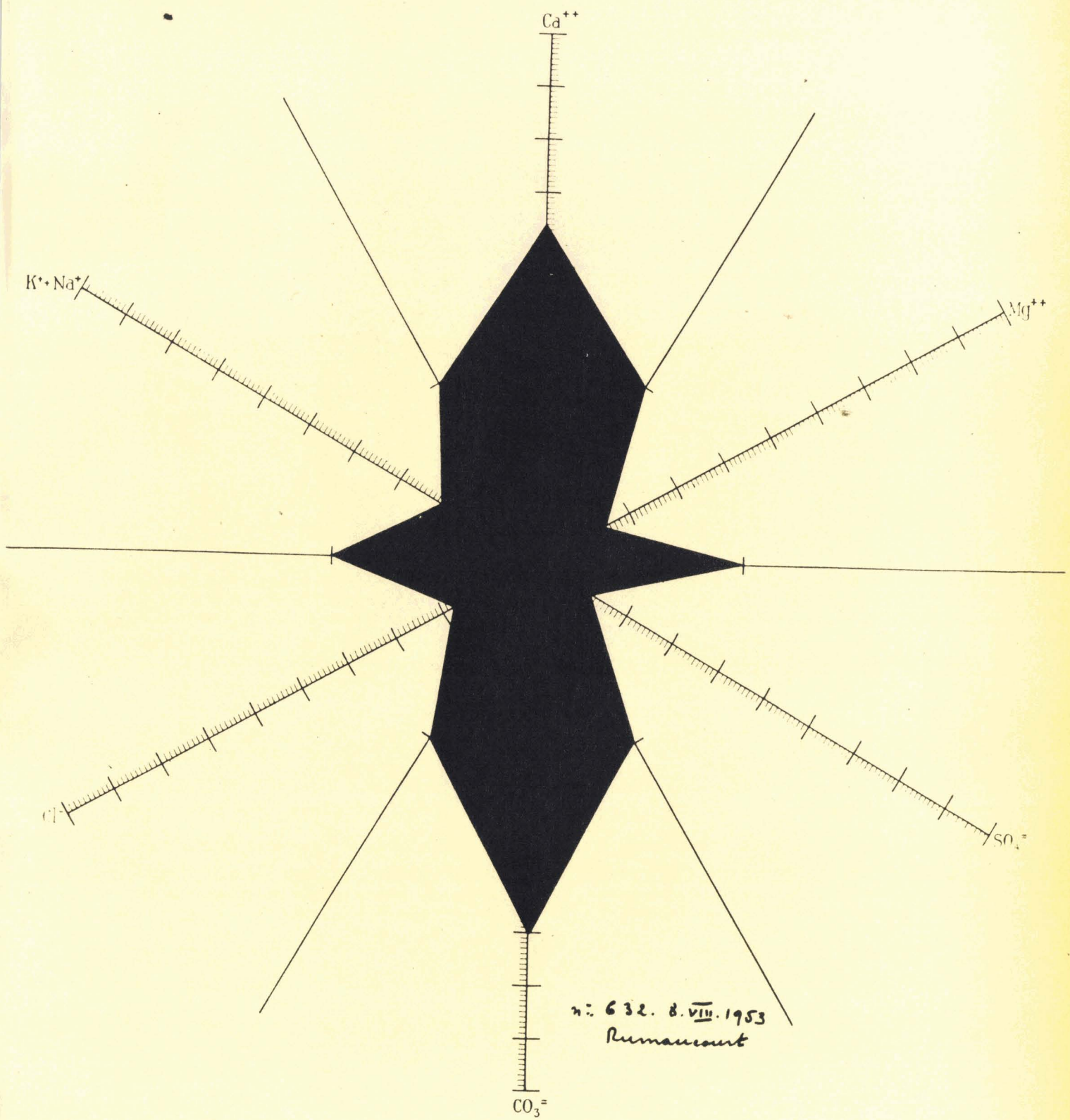


n: 477. 27. III. 1953
Rumaucourt.



RUMAUCOURT 10

8-VIII-53



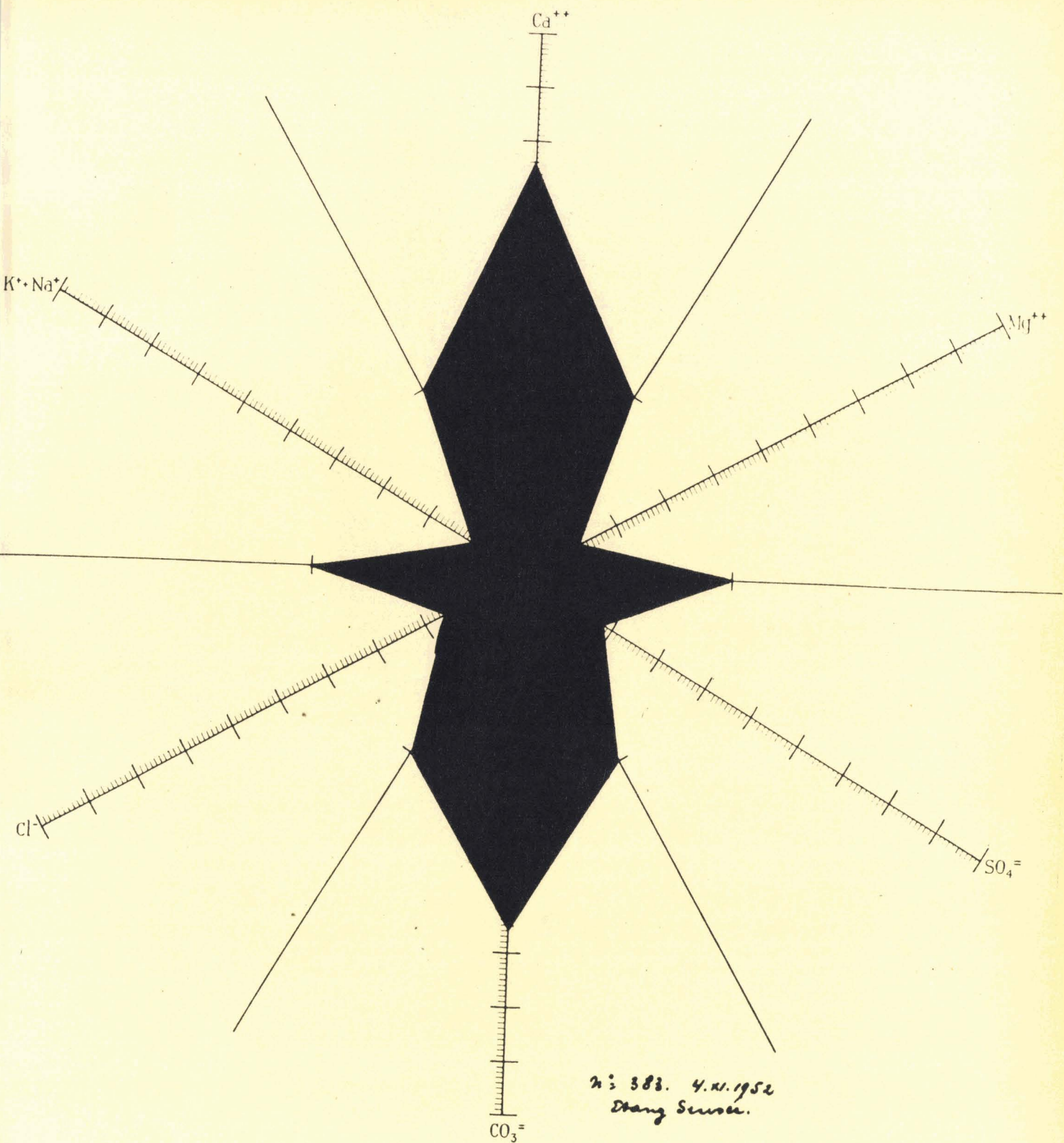
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Rumaucourt



SENSEE

M

4-XI-52



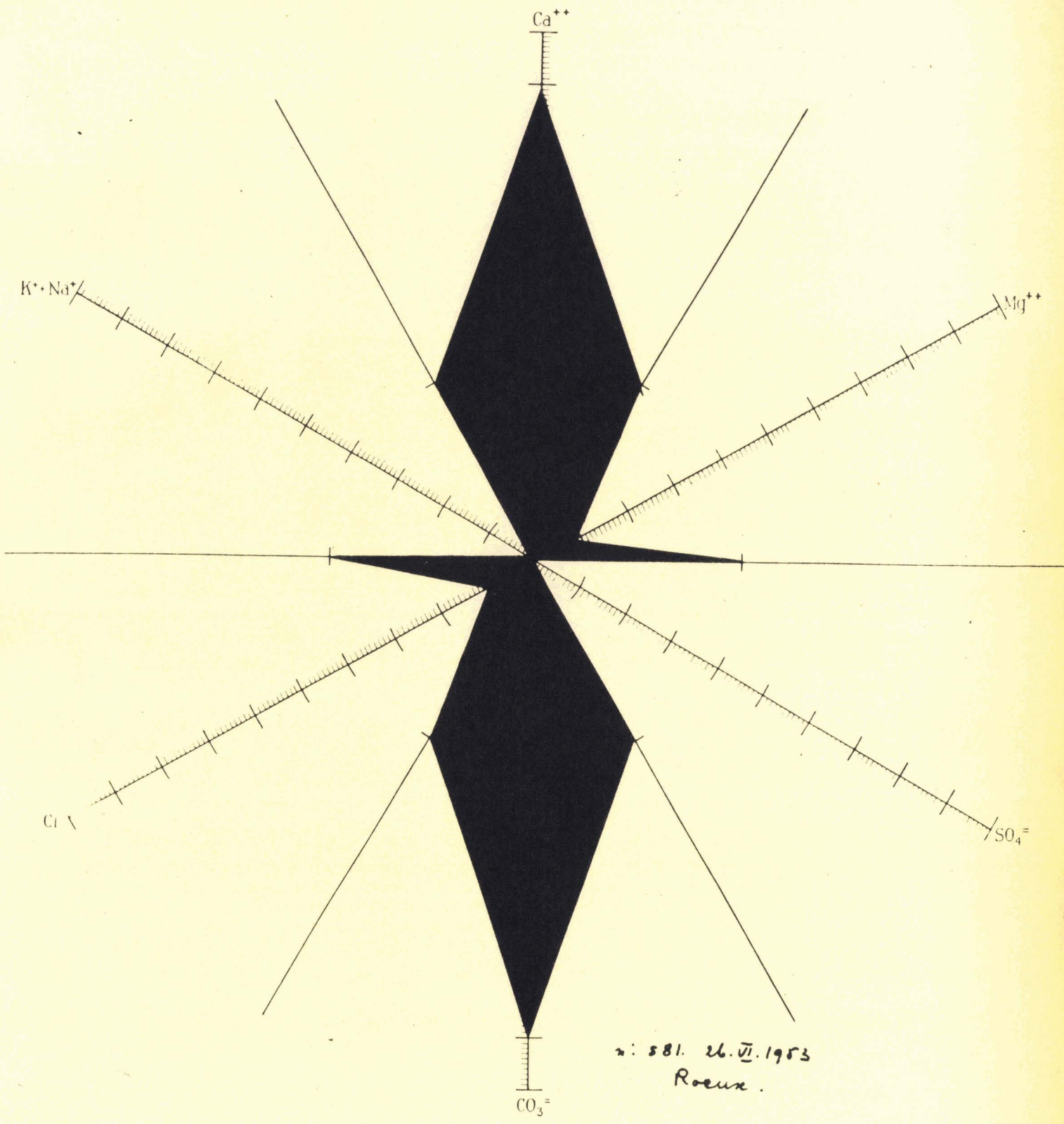
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Etang Sensee.



ROUX

12

26-11-53

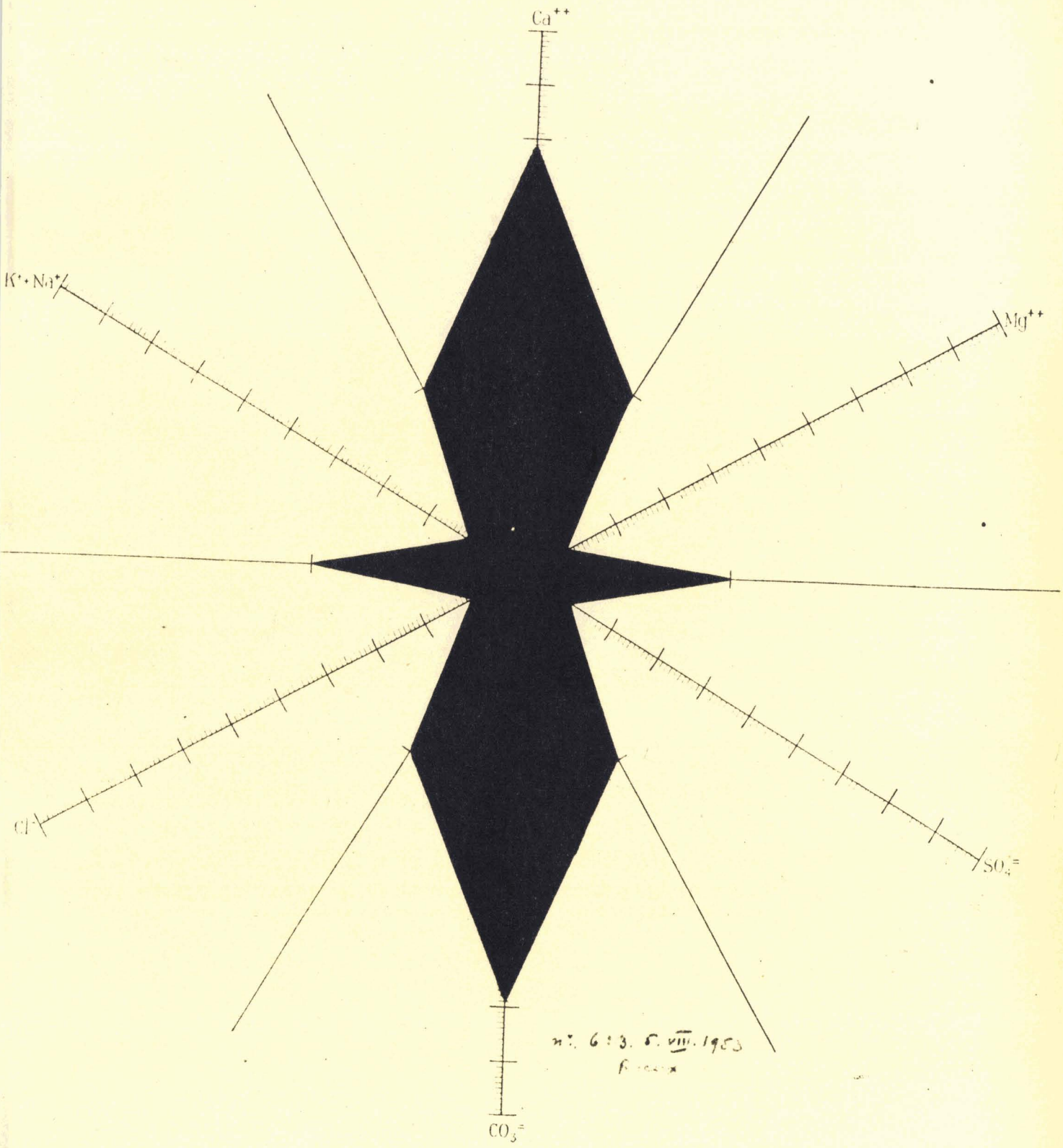


n: 581. 26.VI.1953
Roux.



RŒUX

5 - VIII - 53



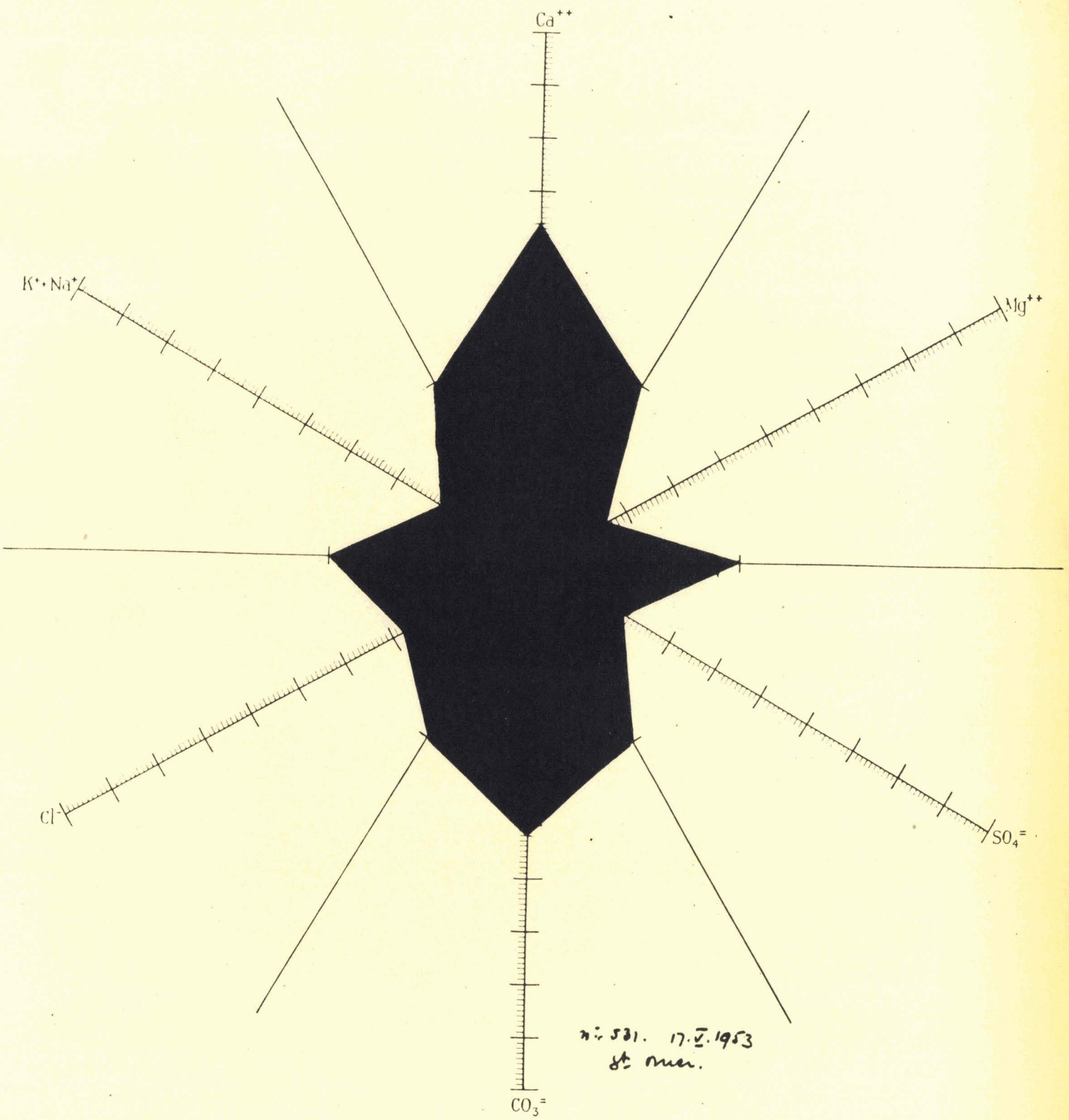
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RŒUX



SAINT-OMER

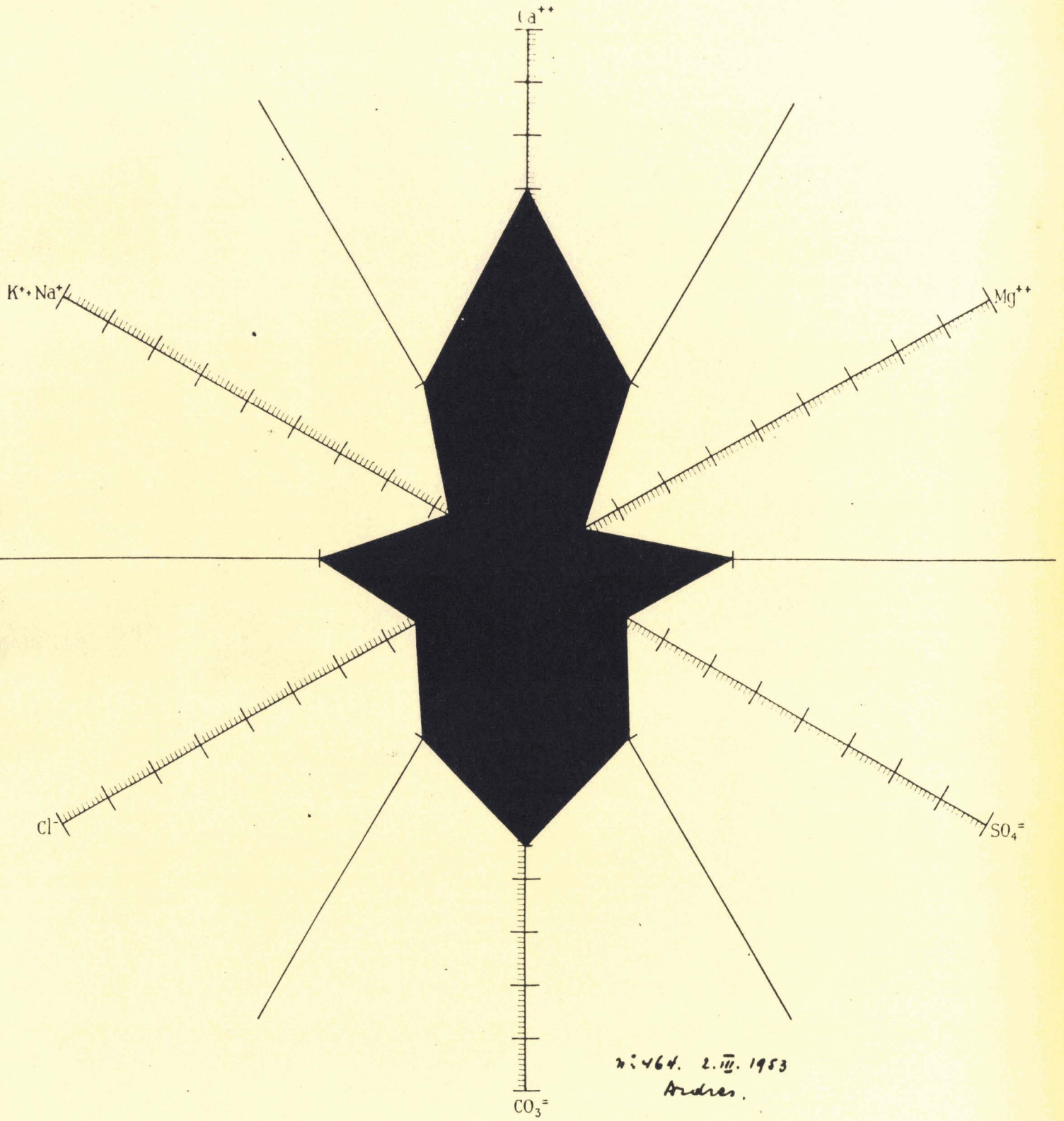
14

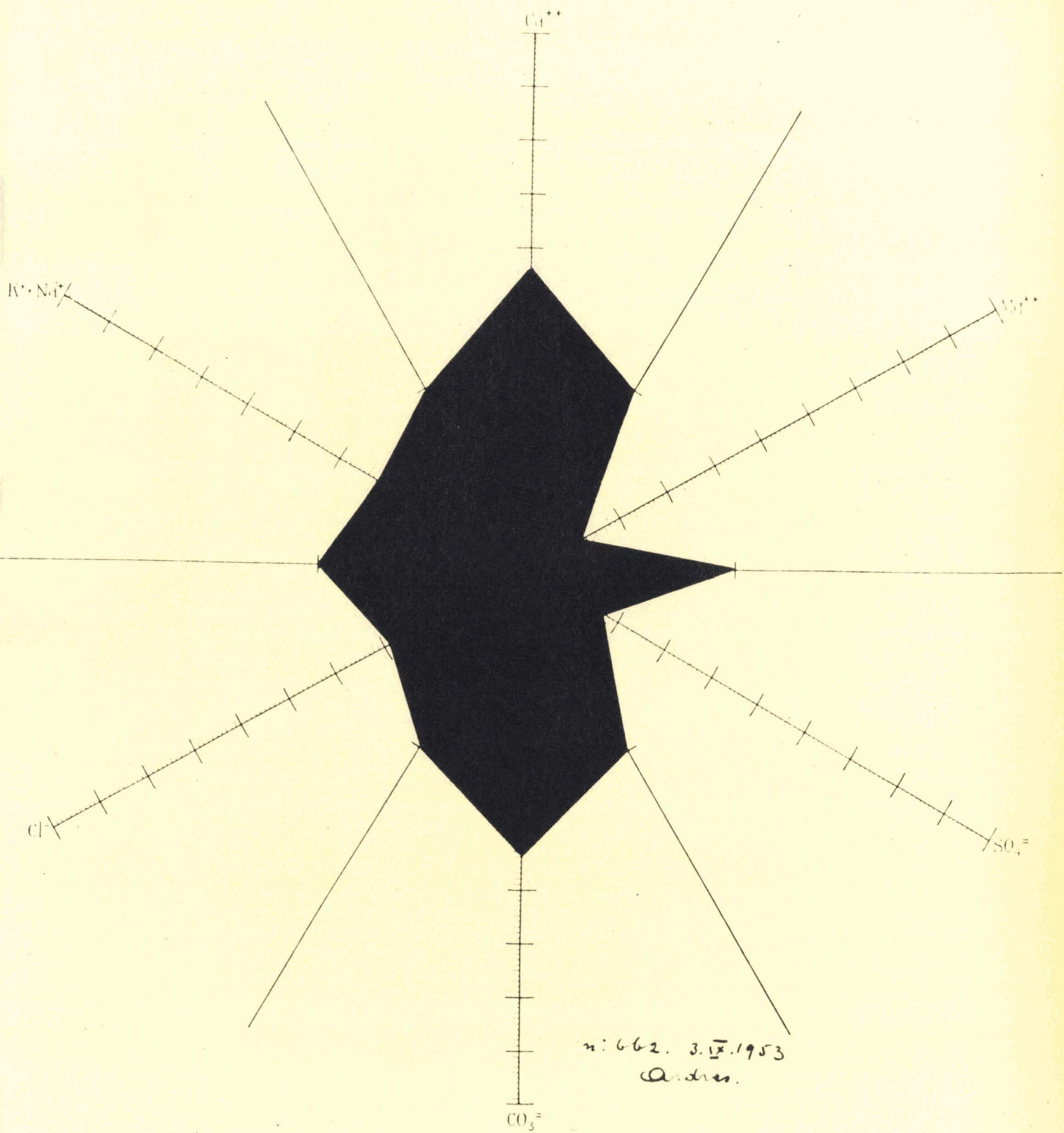
17-V-53



n: 531. 17.5.1953
st mer.

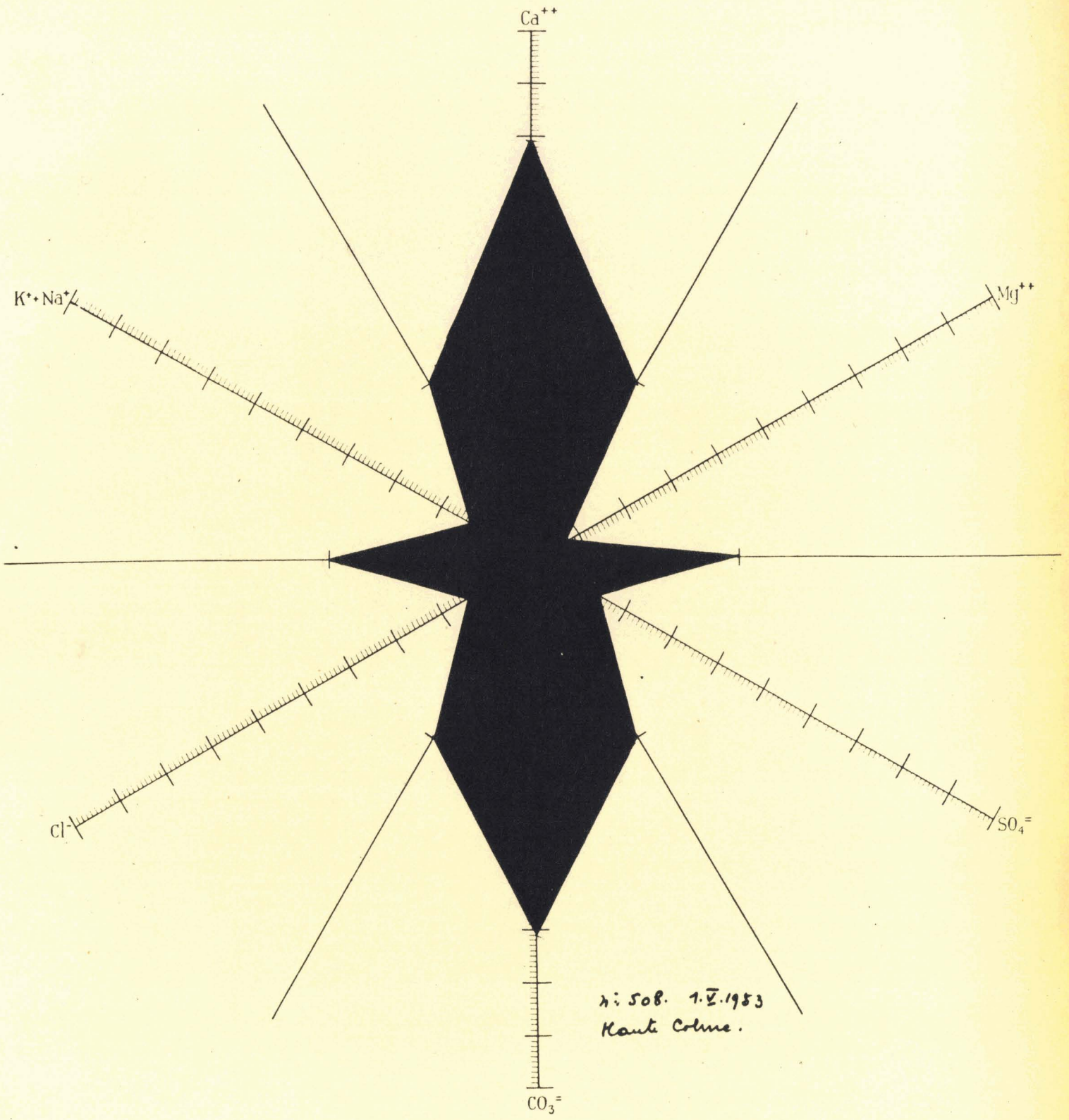




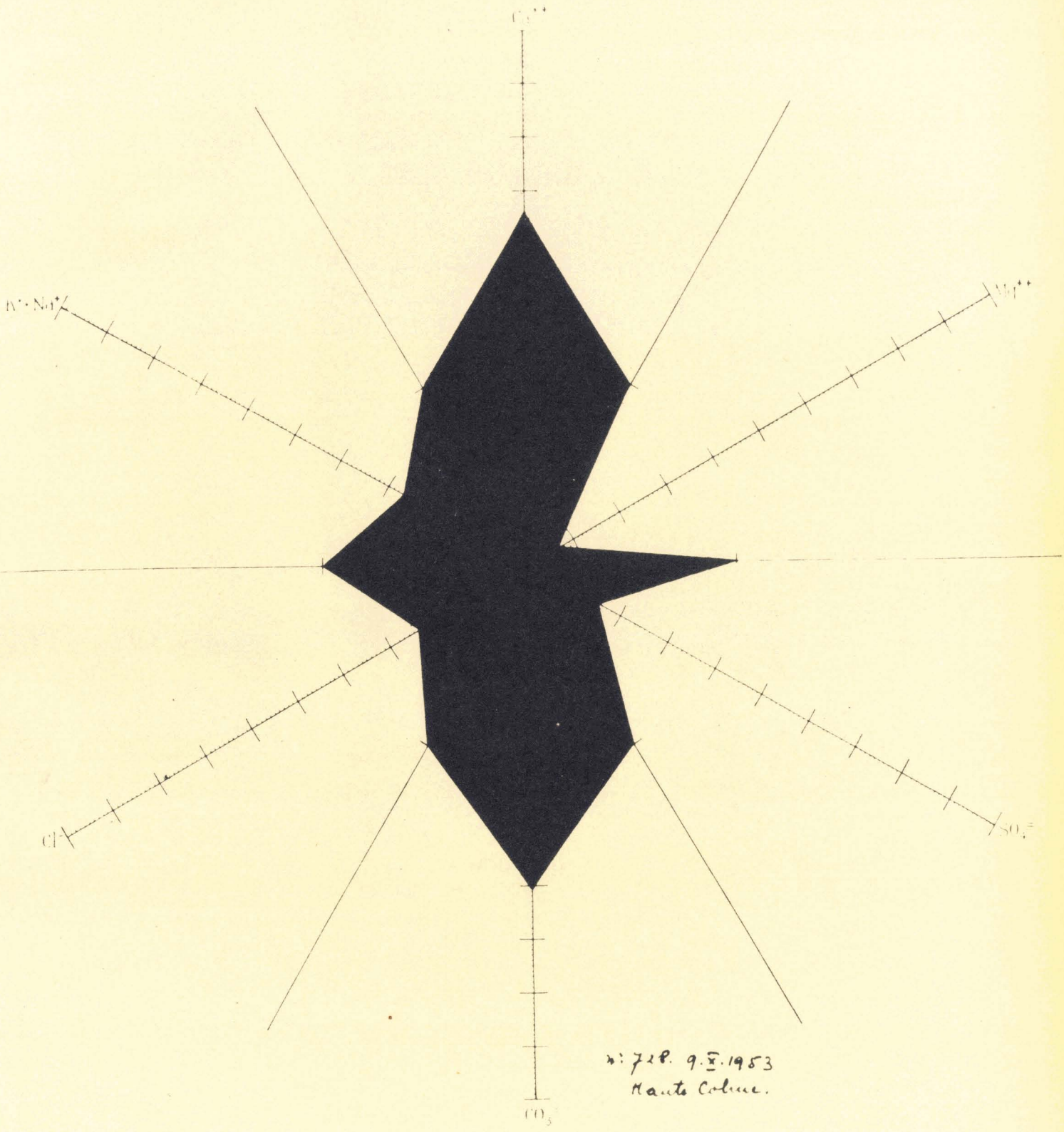


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Ardes.





9-x-53



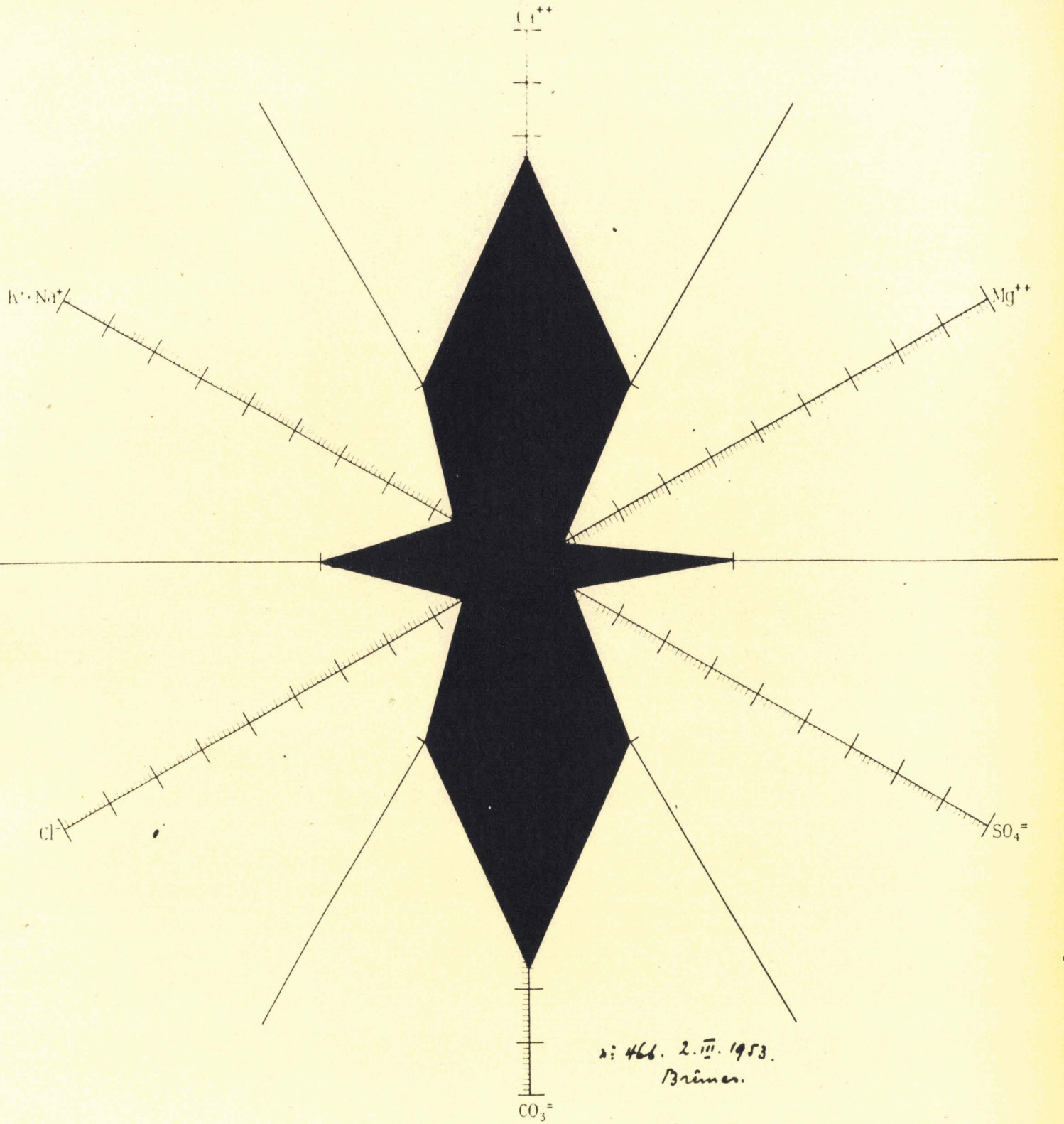
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Haute Colme.



BRÊMES

19

2-III-53



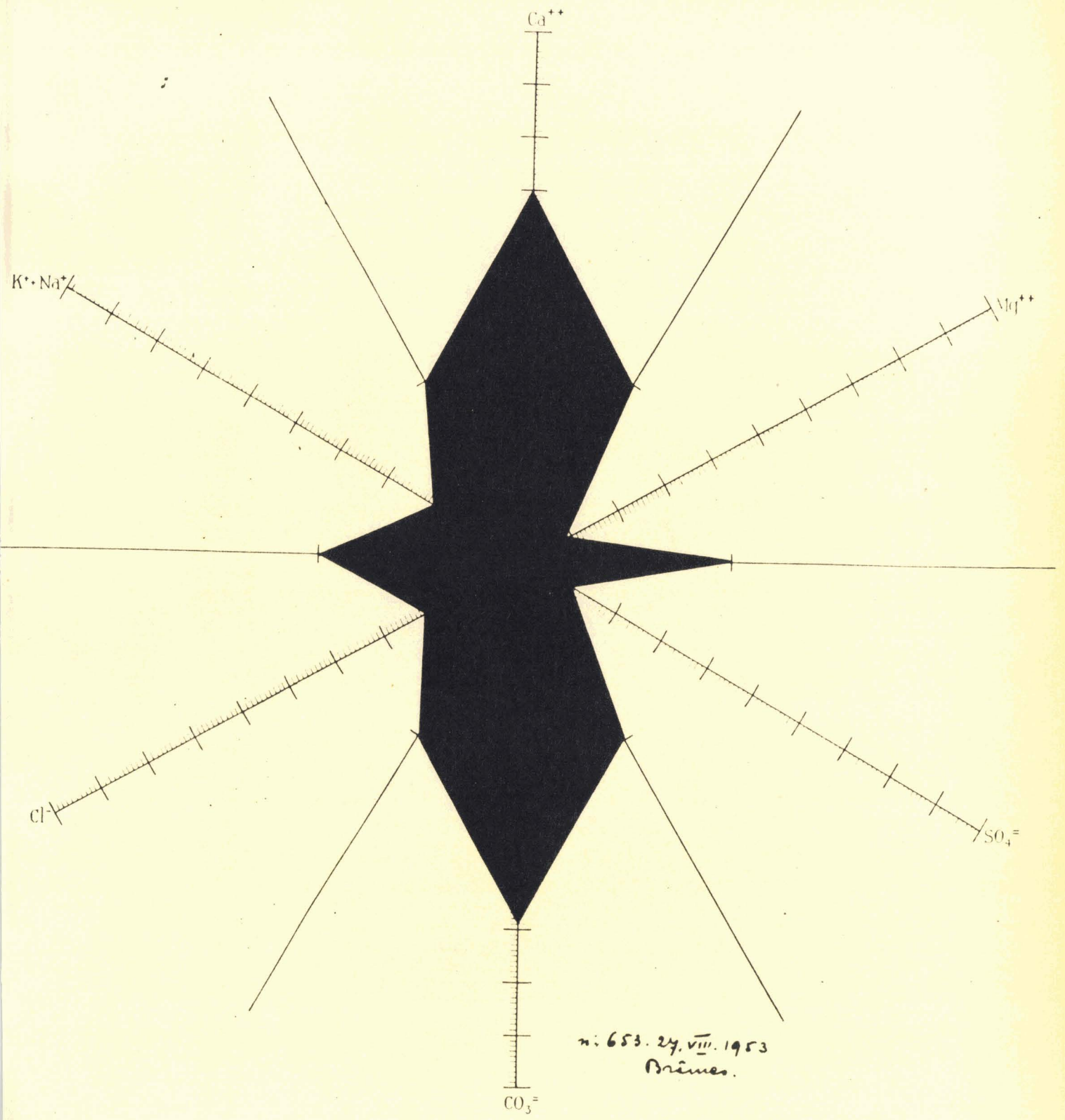
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Brèmes.



BRÊMES

20

27-VIII-53

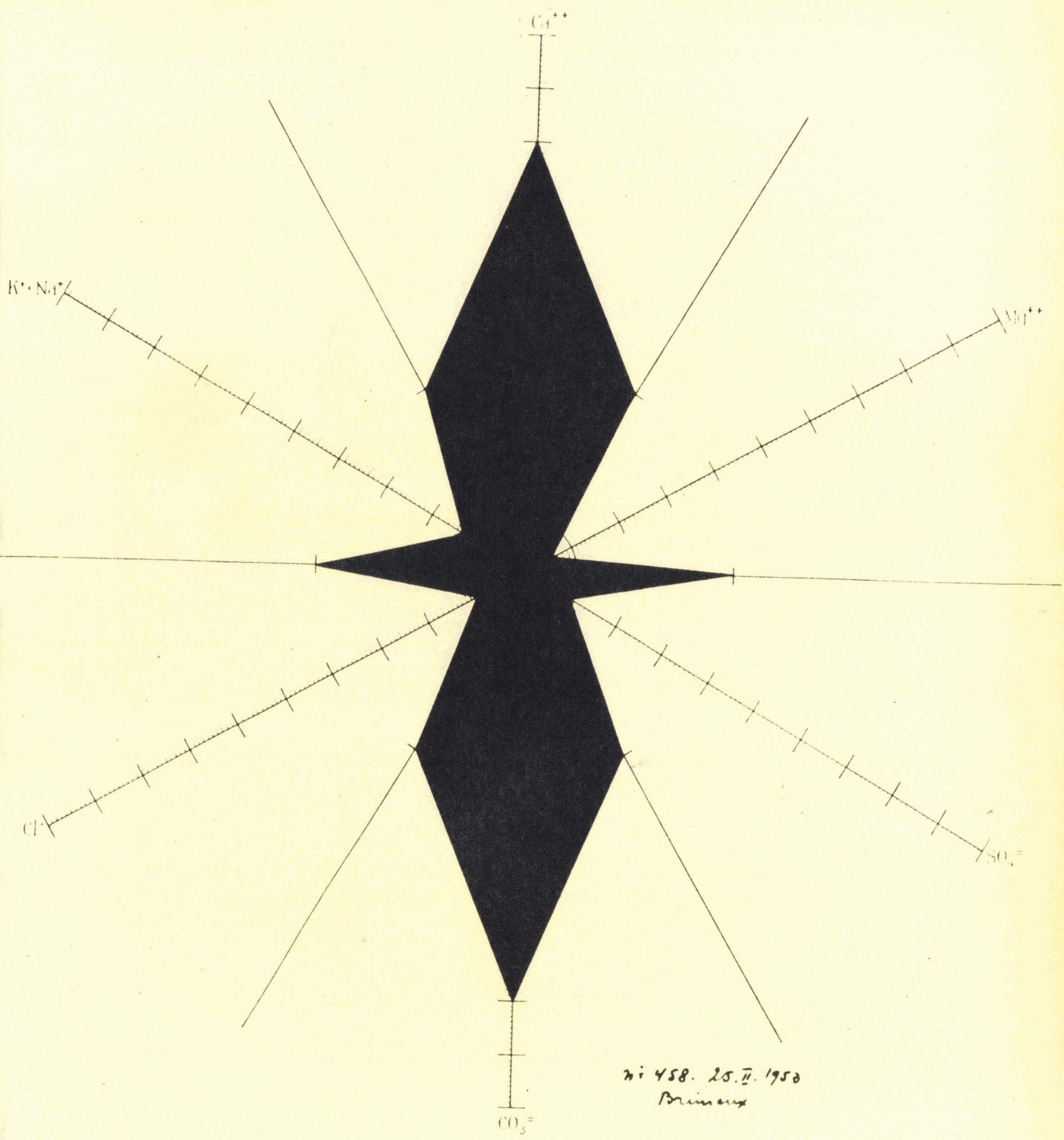


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Brêmes.



BRIMEUX

25-II-52



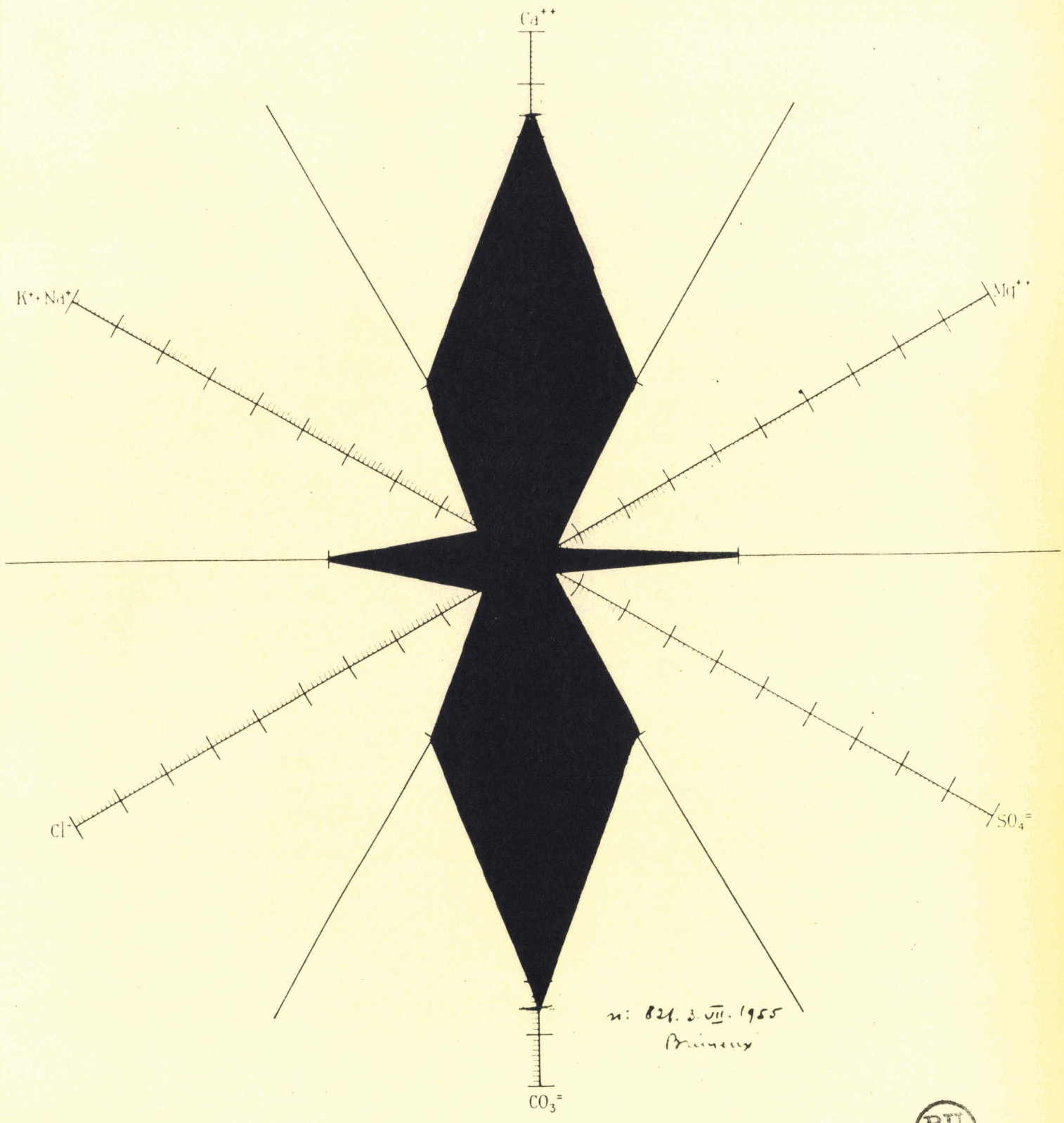
ni 458. 25. II. 1950
Brimeux



BRIMEUX

22

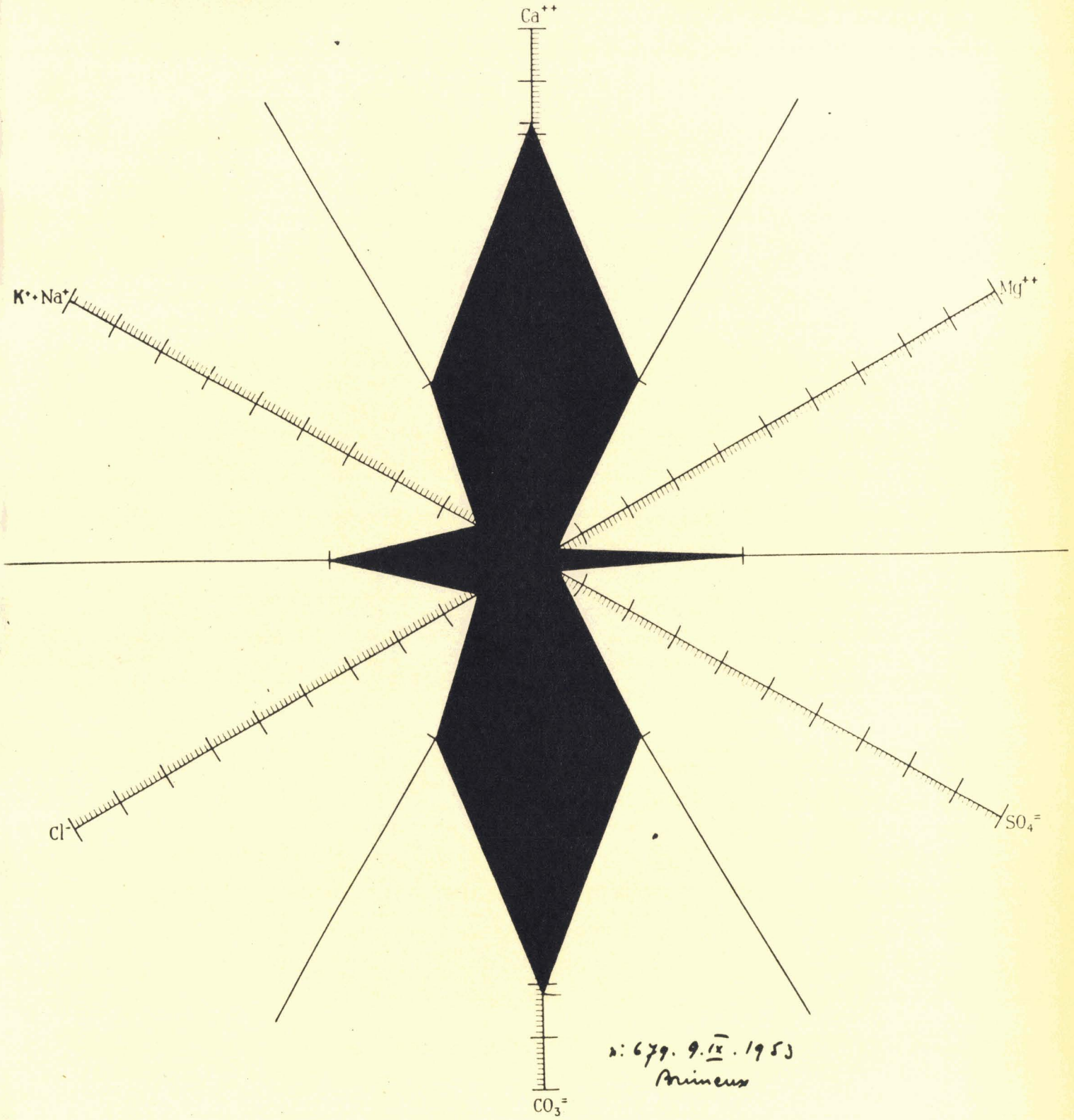
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n: 821.3.VII.1955
Brimeux



9-IX-53

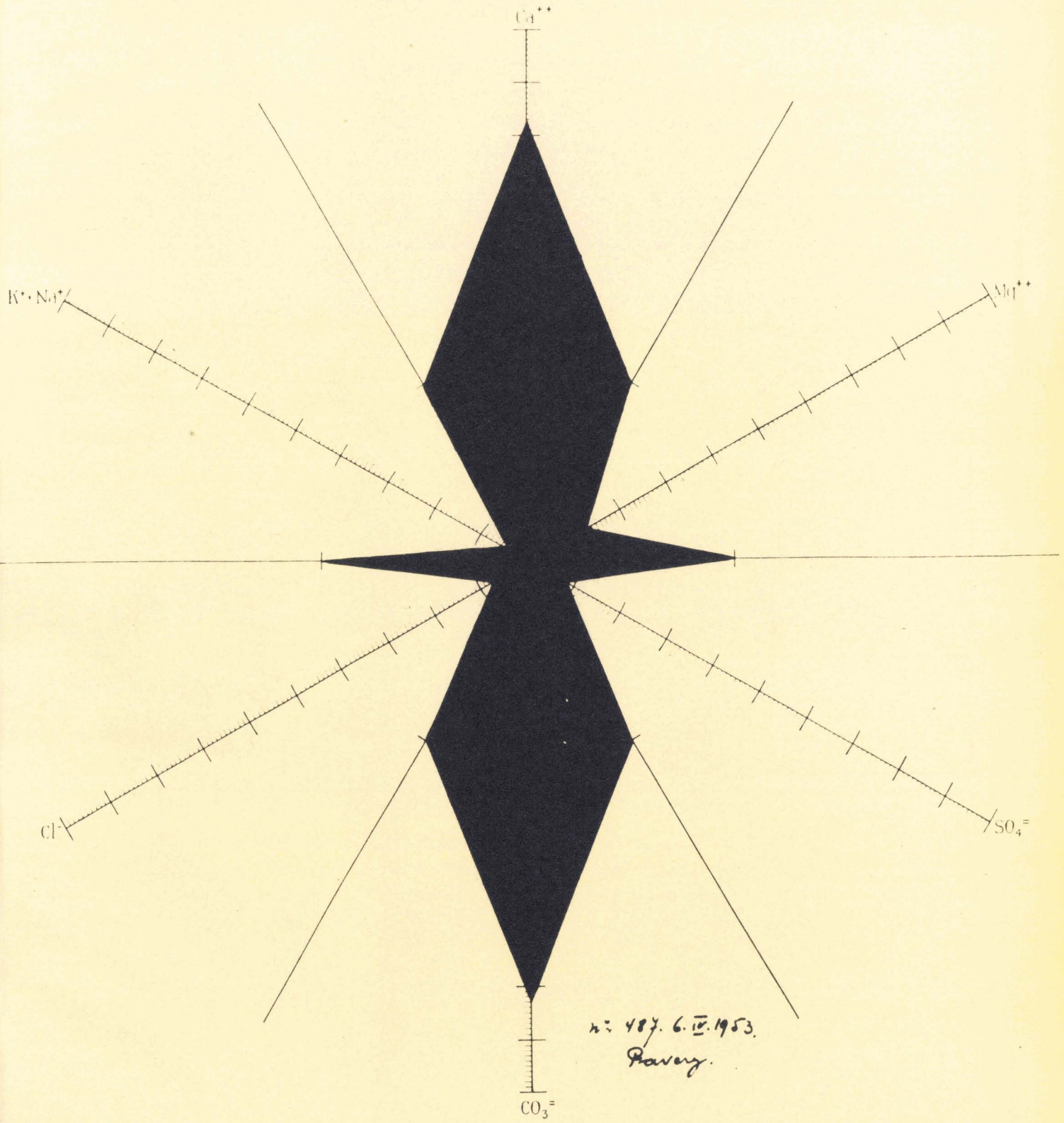


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Brimeux



PAVERY

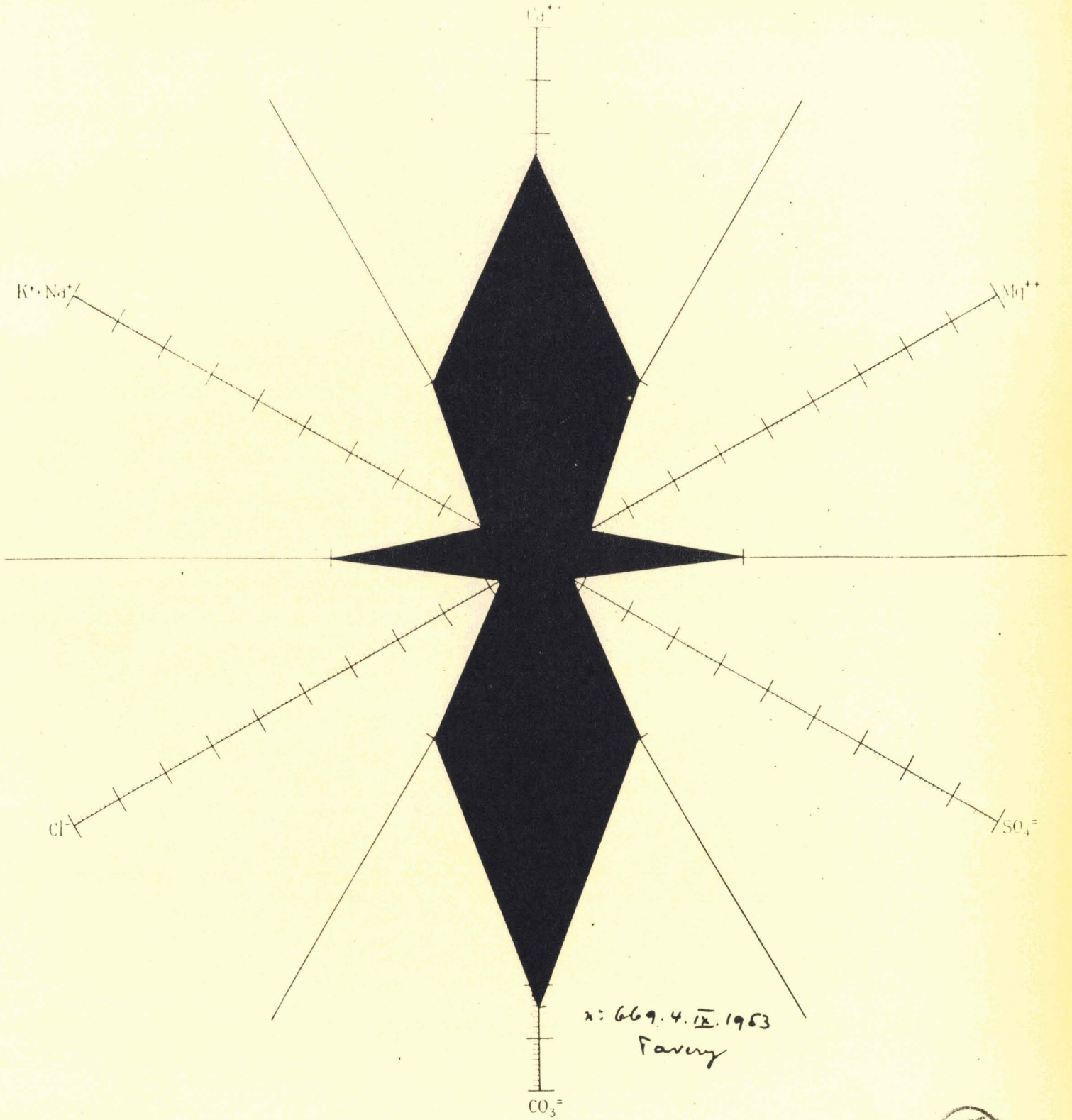
6-IV-53



n: 487. 6. IV. 1953.
Pavery.



4-IX-53



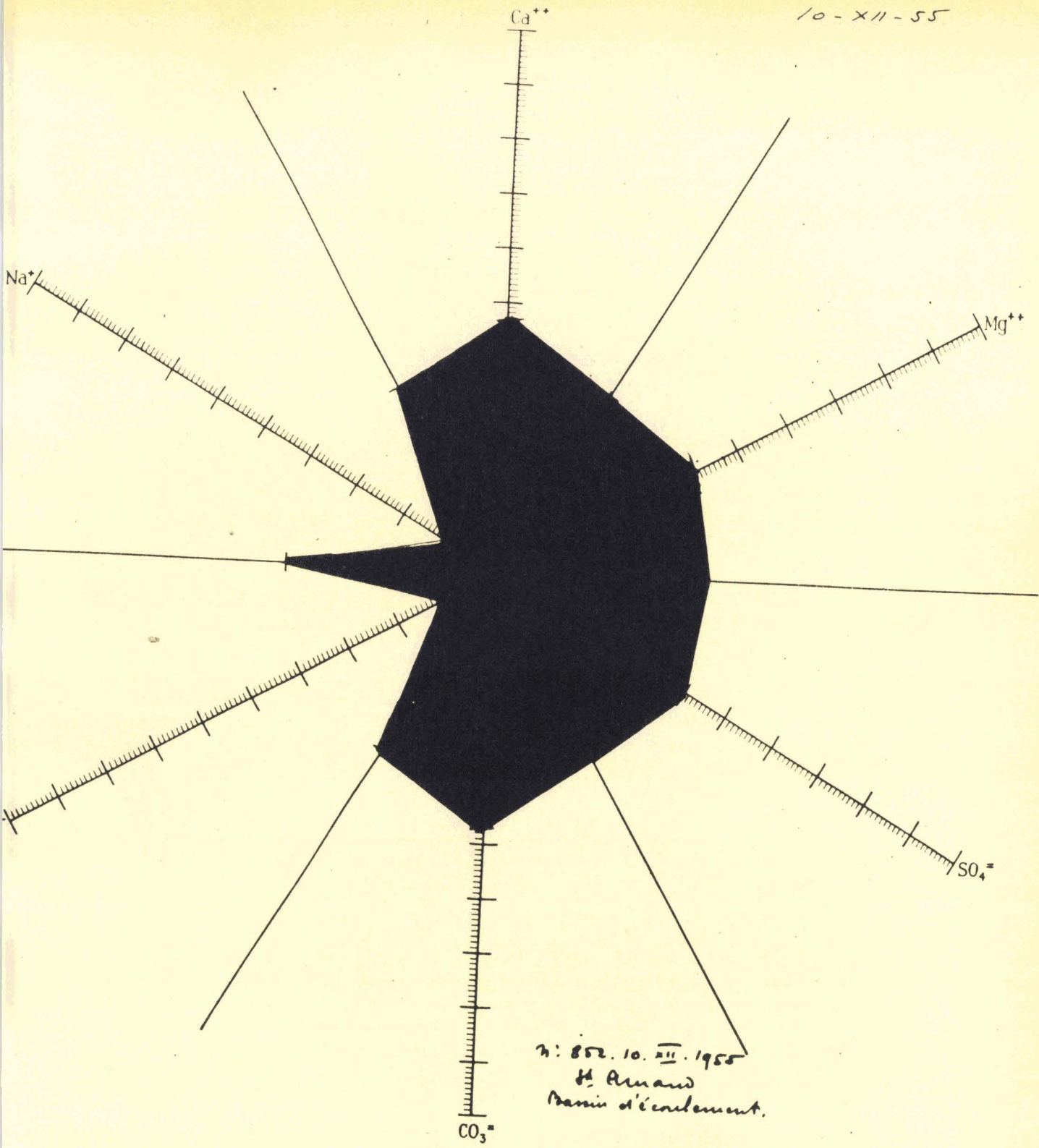
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Pavery



SAINT-AMAND

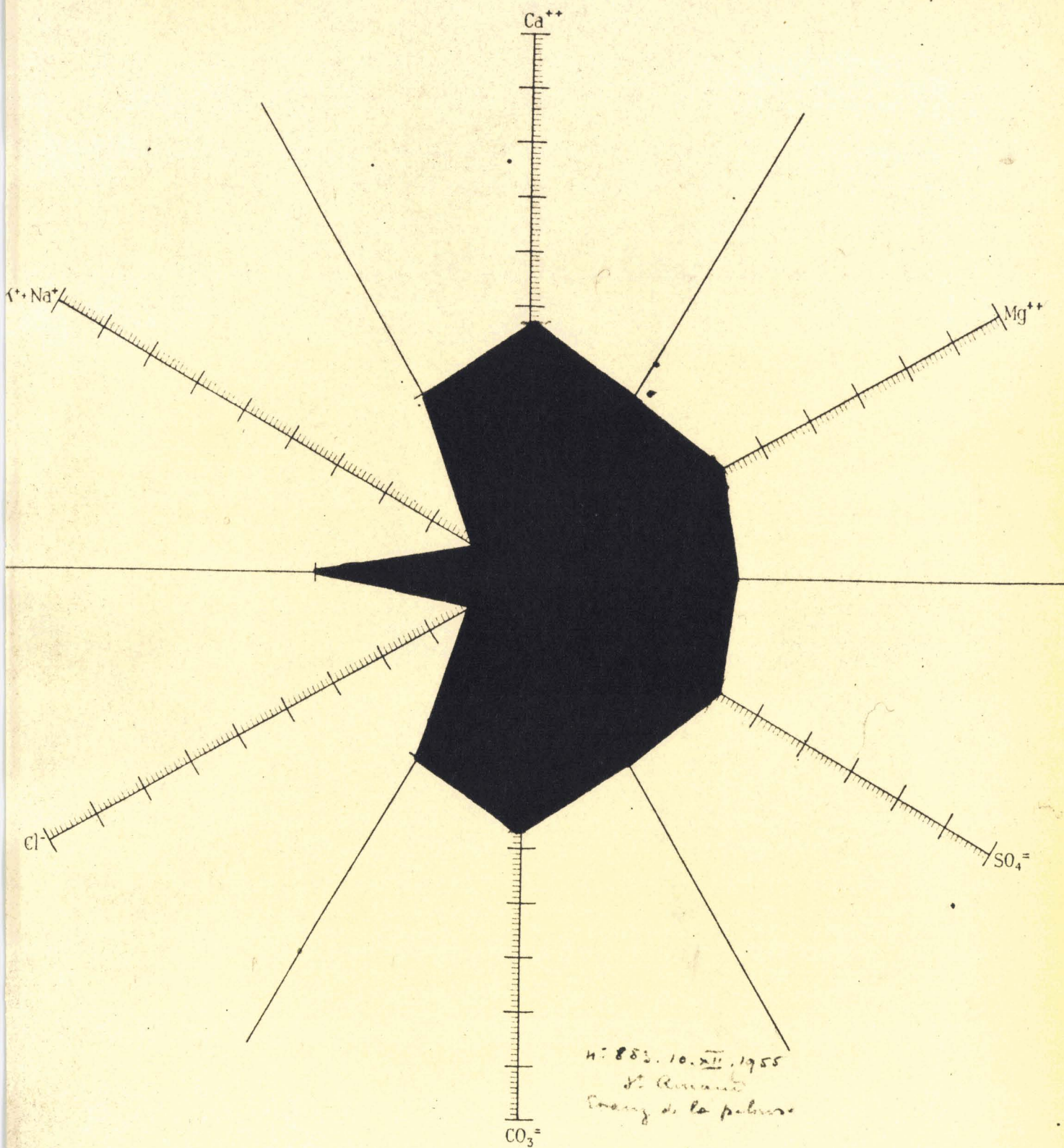
10-XII-55



n: 852. 10. III. 1955
H. Amand
Bassin d'écartement.

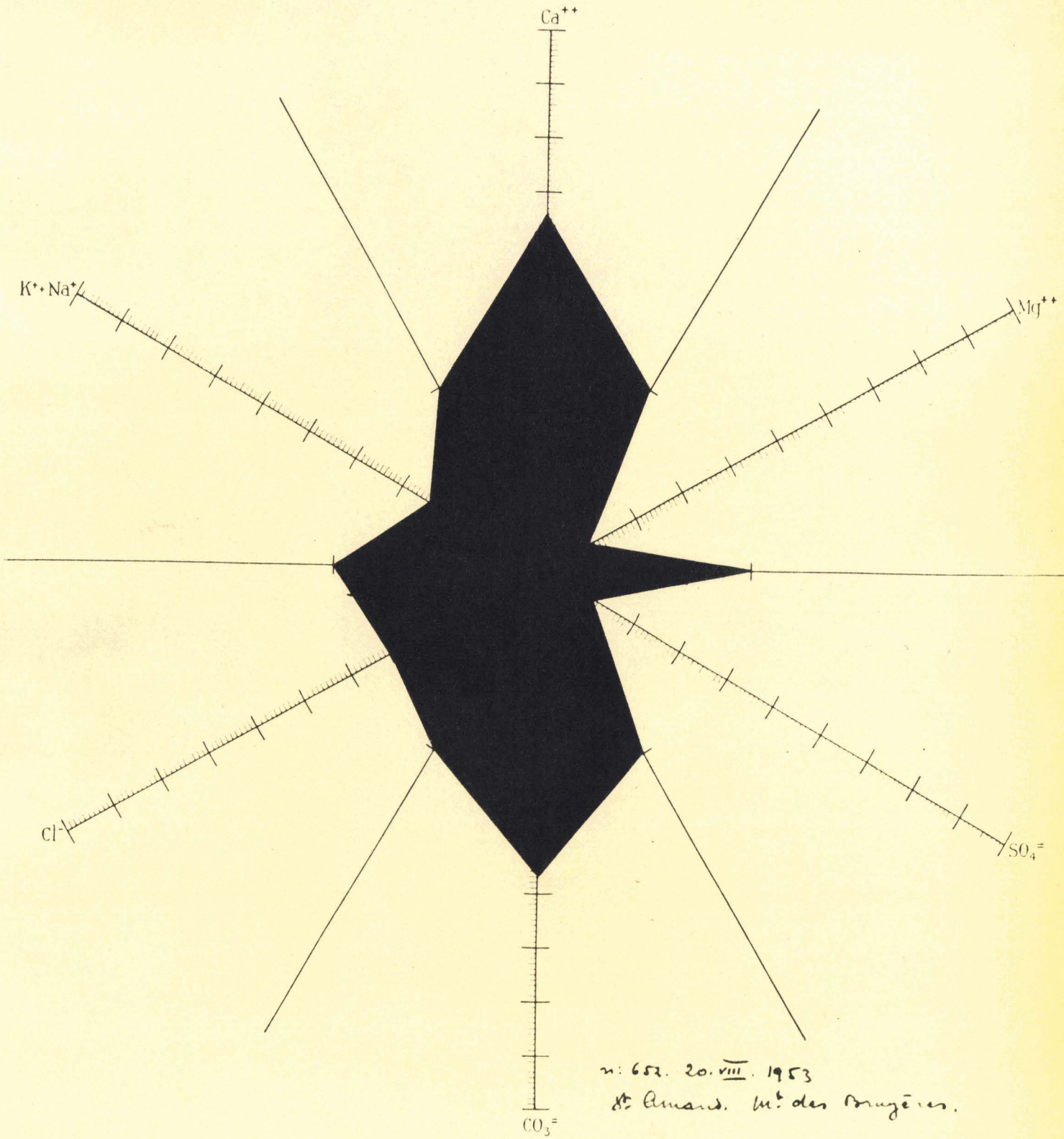


10-XII-55



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St. Amand
Cours de la Préfecture





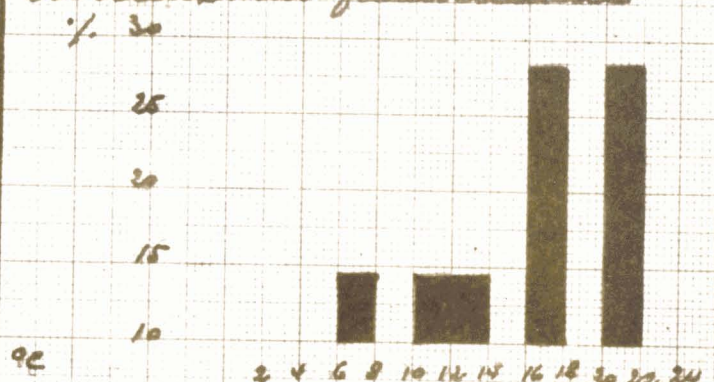
Flautes étary de Roubaux.

Fraquance des espèces flautoniques dominantes par rapport à la température.

Pedicularis virginiana



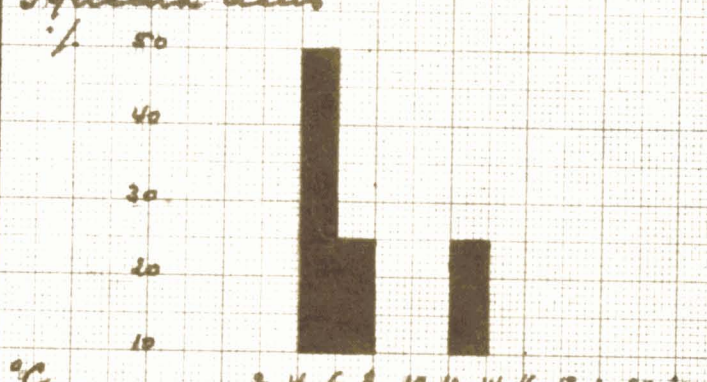
Scirpus americanus quadricauda



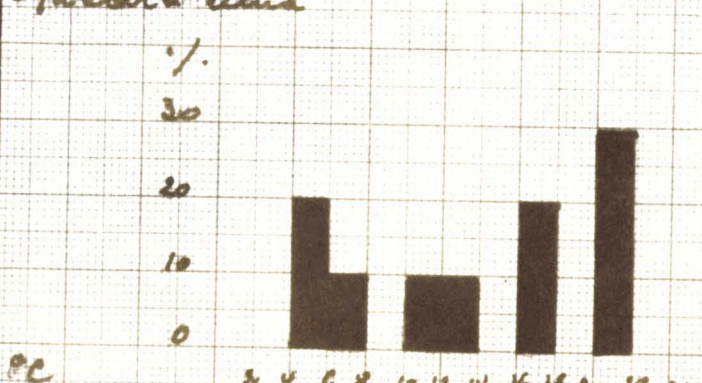
Fragilaria capricornis



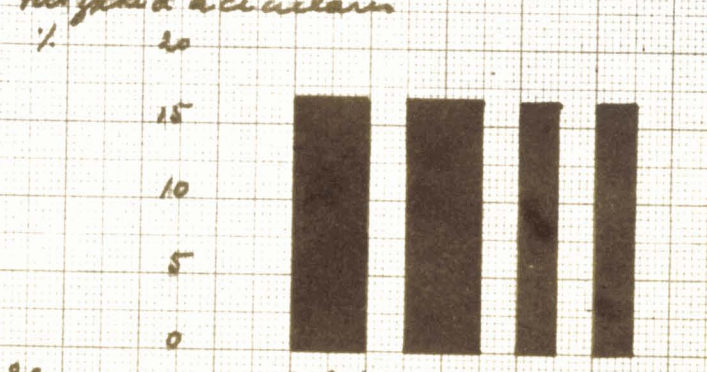
Synedra acus



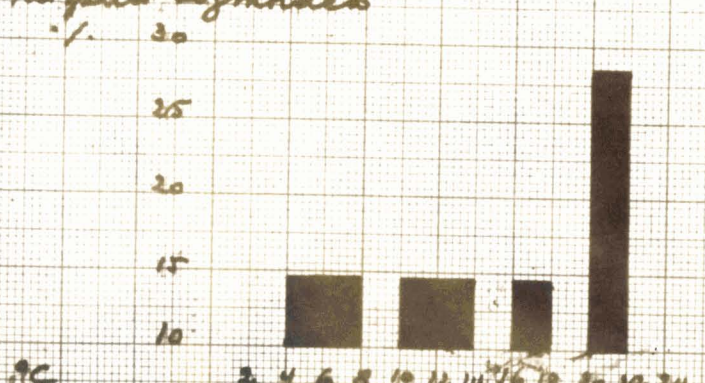
Synedra ulna



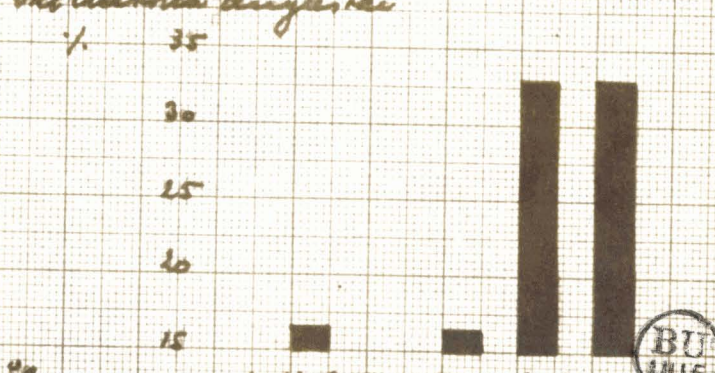
Trizalia acicularis



Trizalia liguloides

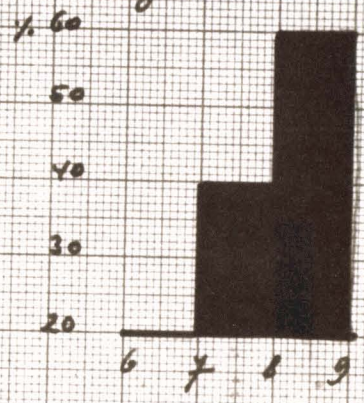


Pectolobus angustatus

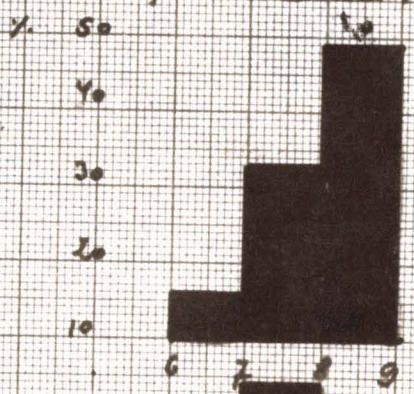


Freqüências das espécies dominantes de plantas
por sítio no pM
Stang de Bernaumont.

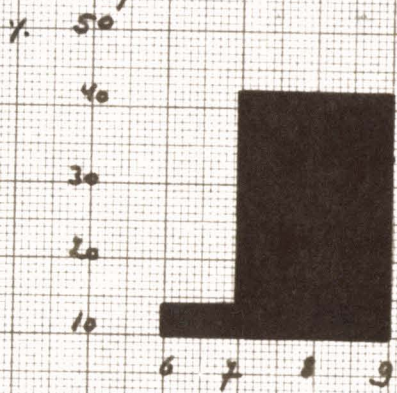
Polypodium Polyanthemum



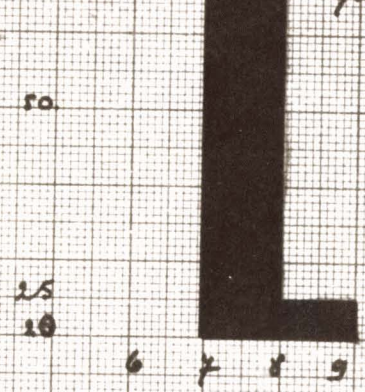
Saxifraga quadrifida



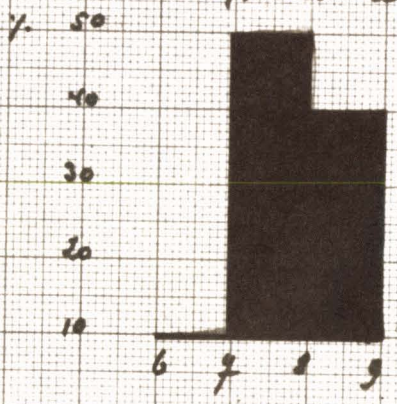
Fraxinaria capensis



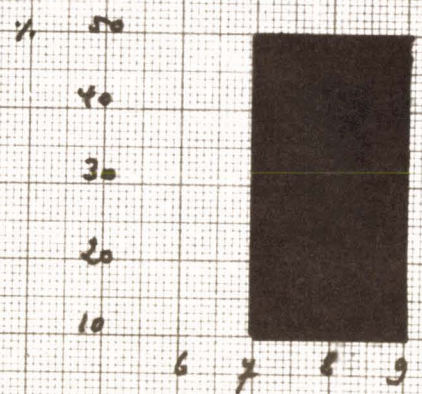
Synedra acuta



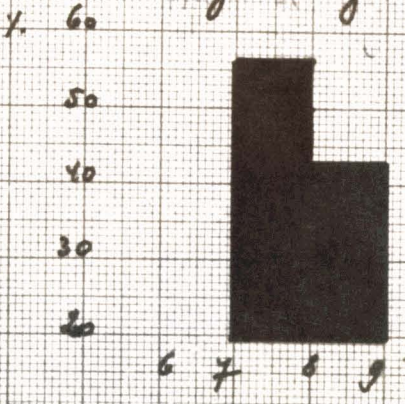
Synedra alba



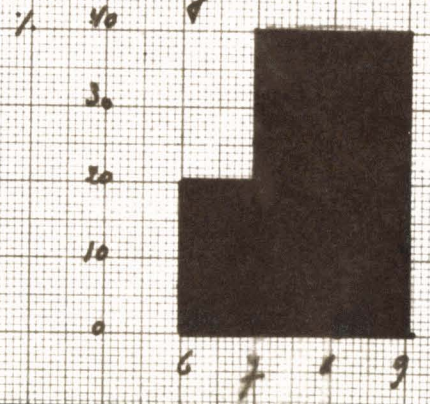
Polypodium acuminatum



Polypodium signoides



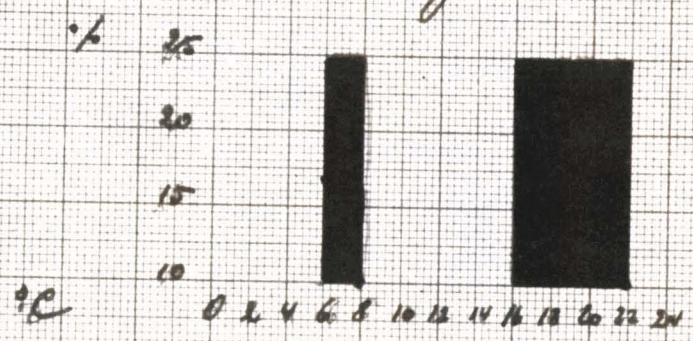
Trichostema angusta



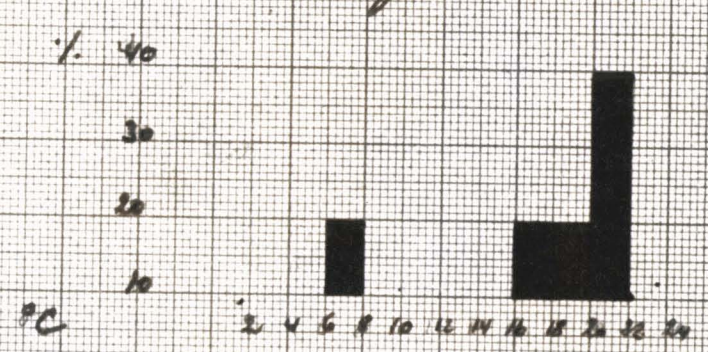
Plancton échant à Poona
Fréquences des espèces dominantes par rapport à la température.

Byron

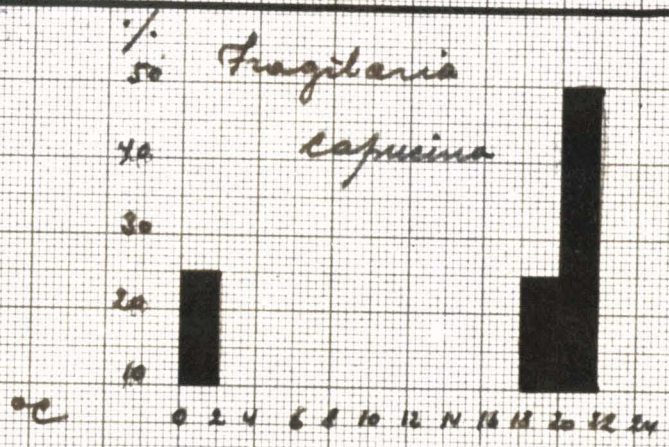
Pediastrum boryanum



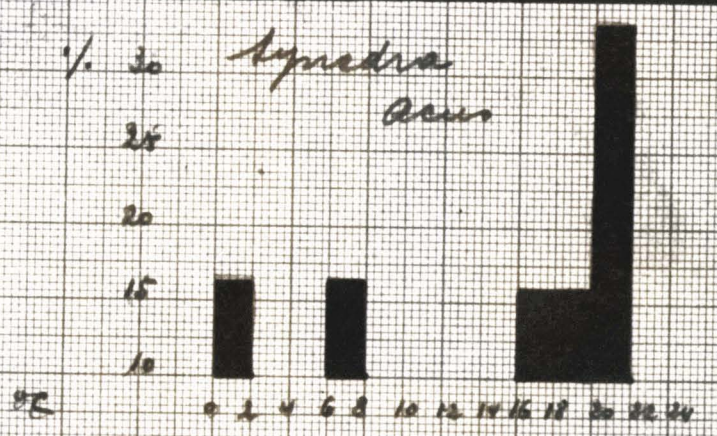
Scenedesmus quadricauda



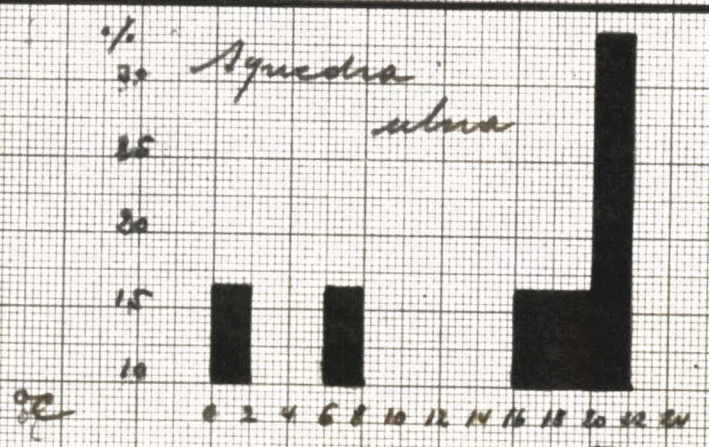
Fragilaria capucina



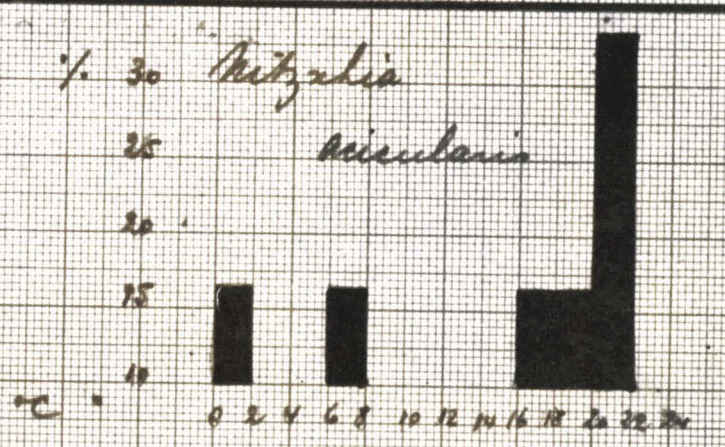
Synedra acus



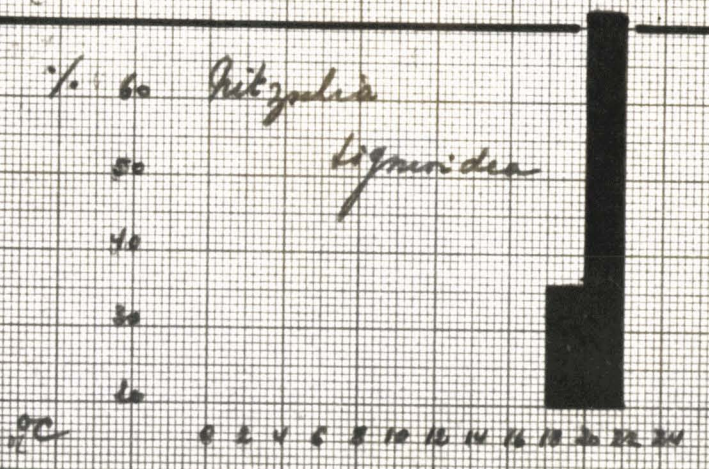
Synedra ulna



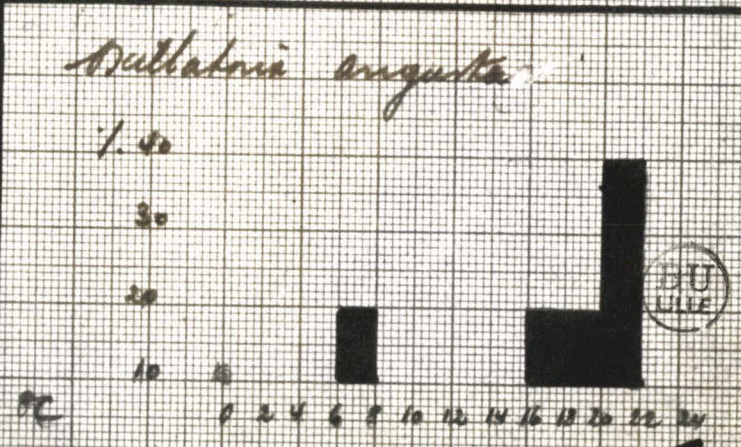
Pitzylia acicularis



Pitzylia lignoides



Dallatonia angustata



Frequenze des apices dominante du plantes
par rapport aux pte.
Spannig der Rosten.

Pedicularis Fenzlana

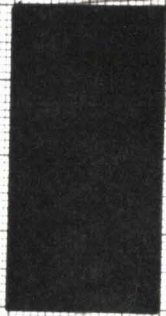
% 50

40

30

20

10



pte

7 8 9

Silene acaulis

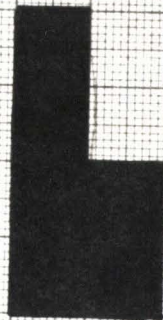
% 60

50

40

30

20



pte

7 8 9

Fraxinaria capensis

% 50

40

30

20

10



pte

7 8 9

Saxifraga oppositifolia

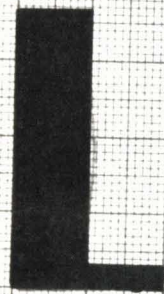
% 70

60

50

40

30



pte

7 8 9

Saxifraga oppositifolia

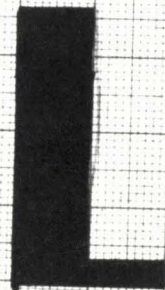
% 70

60

50

40

30



pte

7 8 9

Nitzylia acicularis

% 70

60

50

40

30



pte

7 8 9

Nitzylia sigmoidea

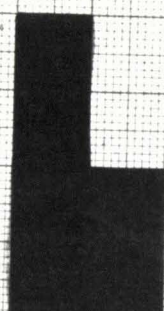
% 60

50

40

30

20



pte

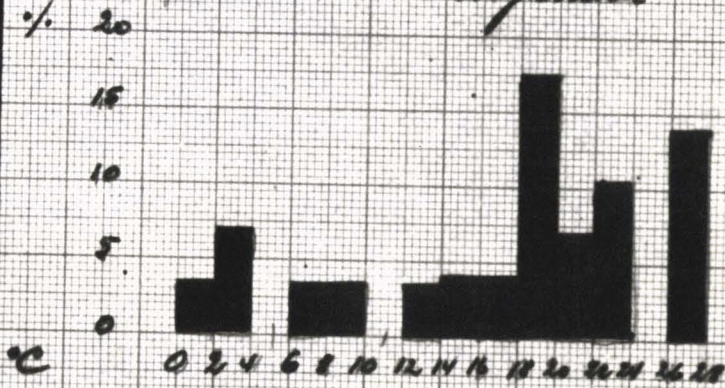
7 8 9



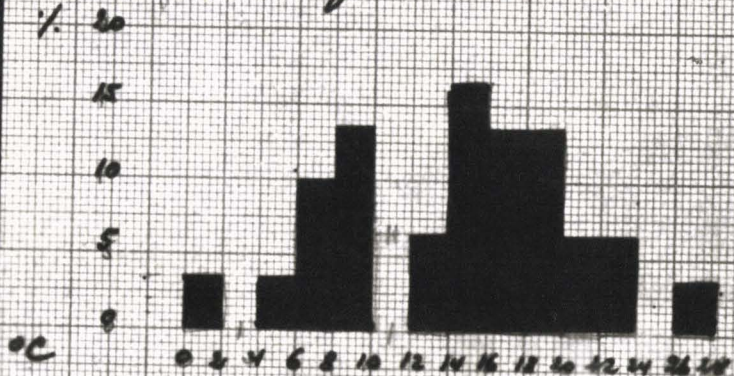
Harston étang à Ardres.

Fréquence des espèces dominantes par rapport à la température.

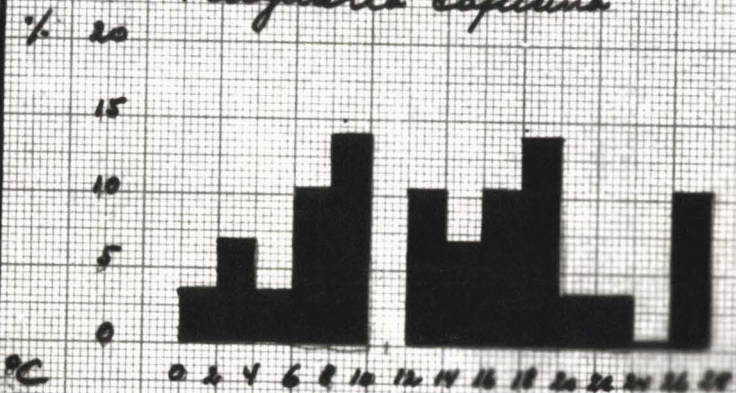
Pedicularis bryanae



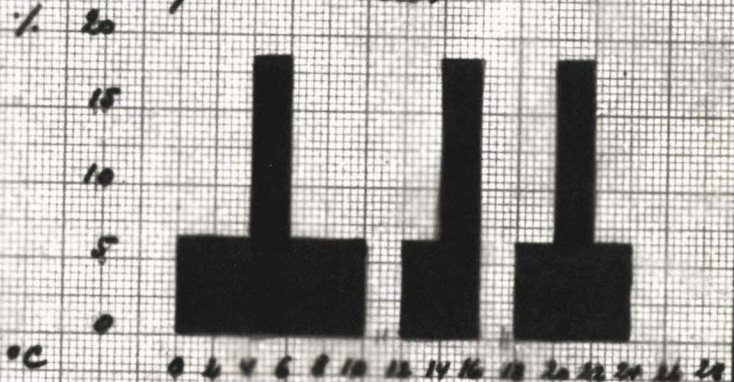
Scenedesmus quadricauda



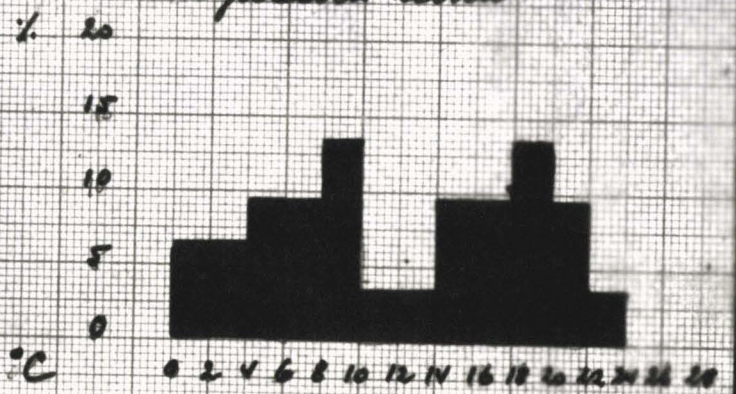
Fragilaria capucina



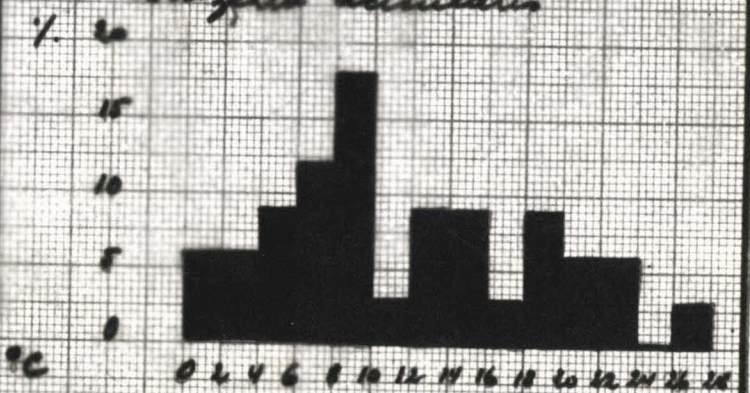
Synedra acus



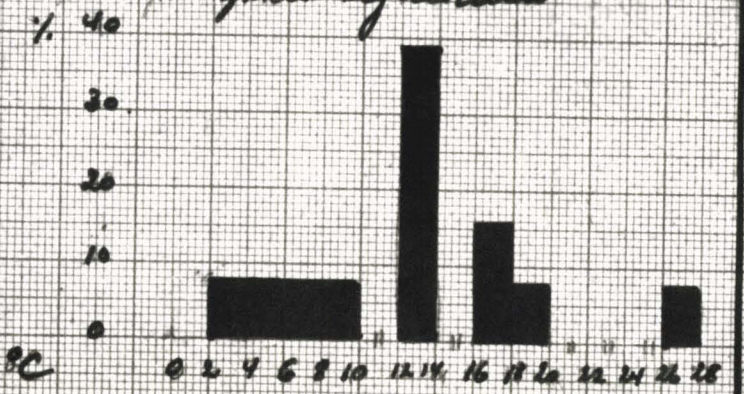
Synedra ulna



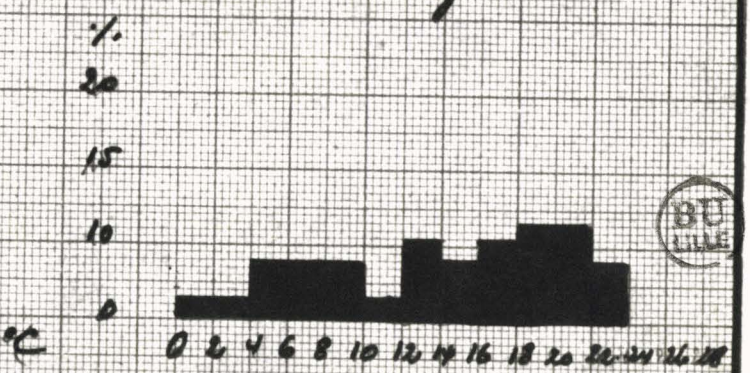
Uitzylia acicularis



Uitzylia lignurida

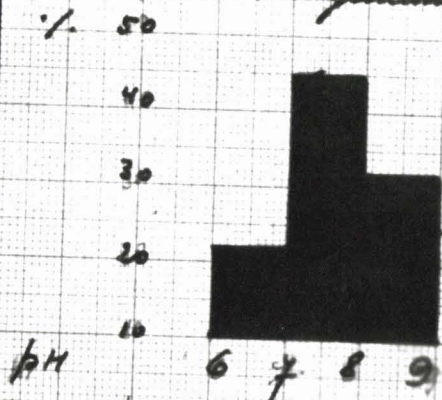


Miktonia arizutae

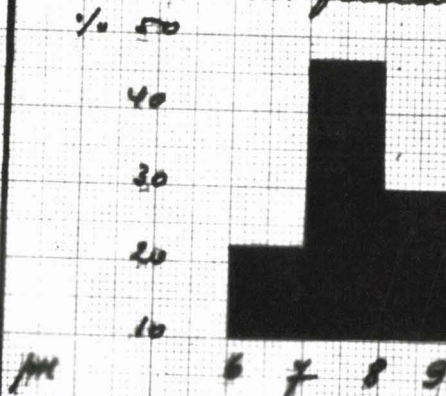


Planton cheny à Ardres
 Fréquences des espèces dominantes par rapport au pH

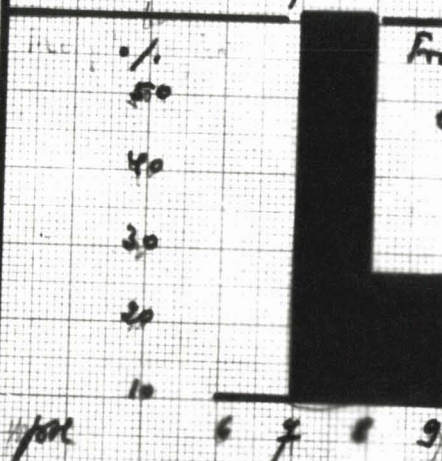
Pedicularis Fenzliana



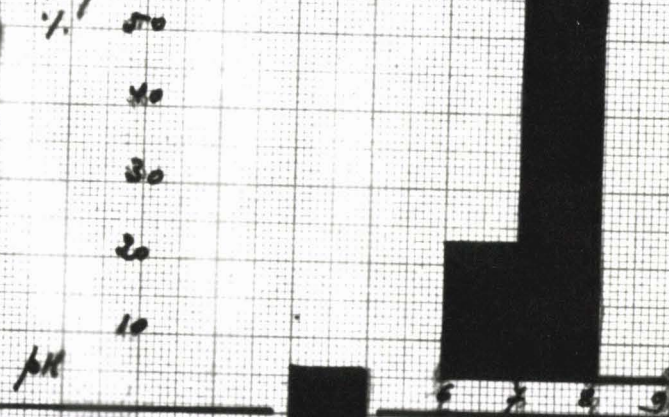
Scenedesmus quadricauda



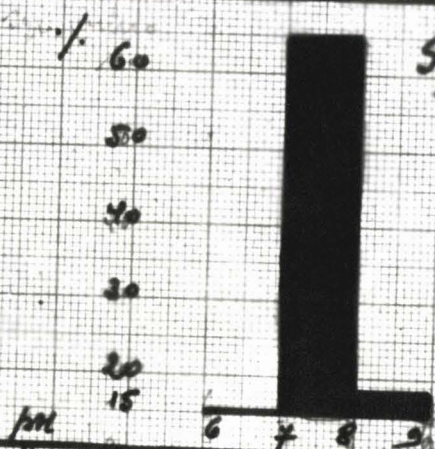
Fragilaria capucina



Synedra acus



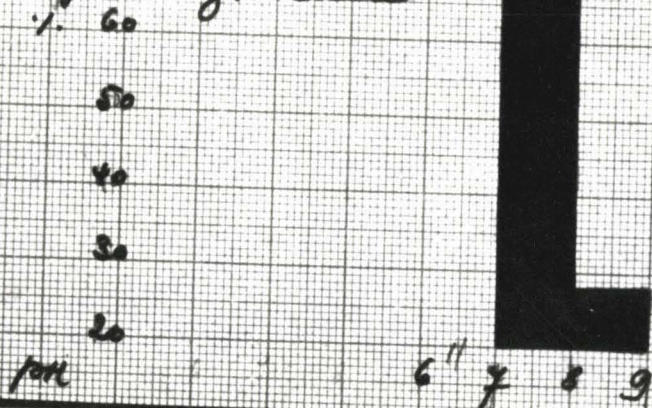
Synedra selua



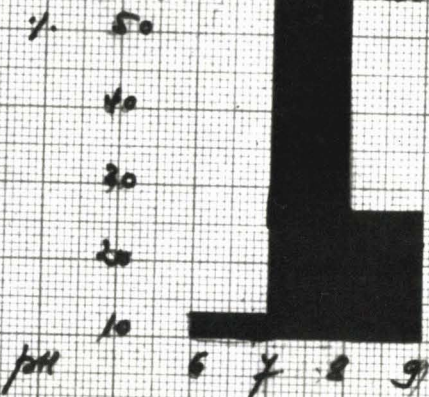
Nitzschia acicularis



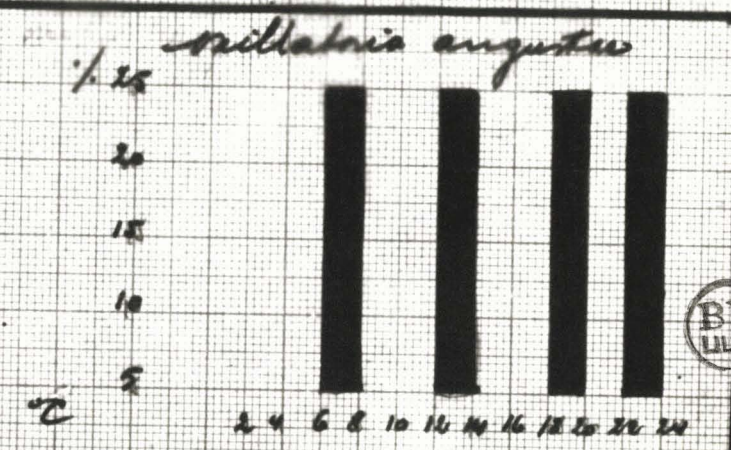
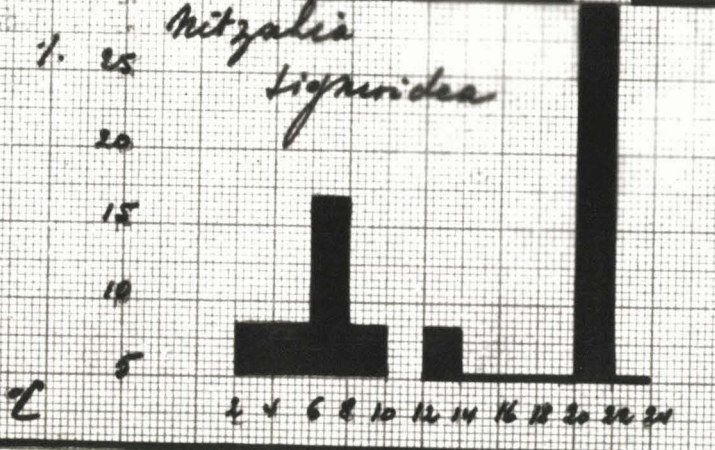
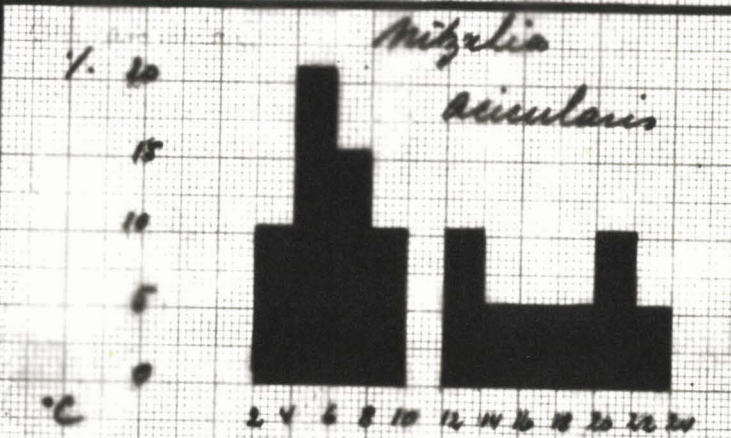
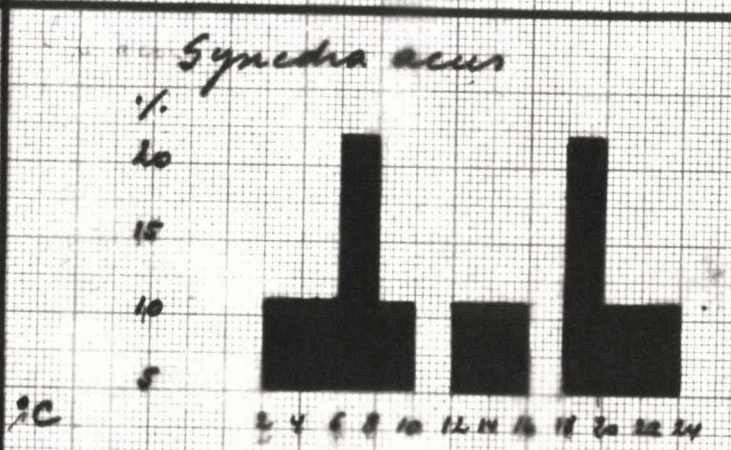
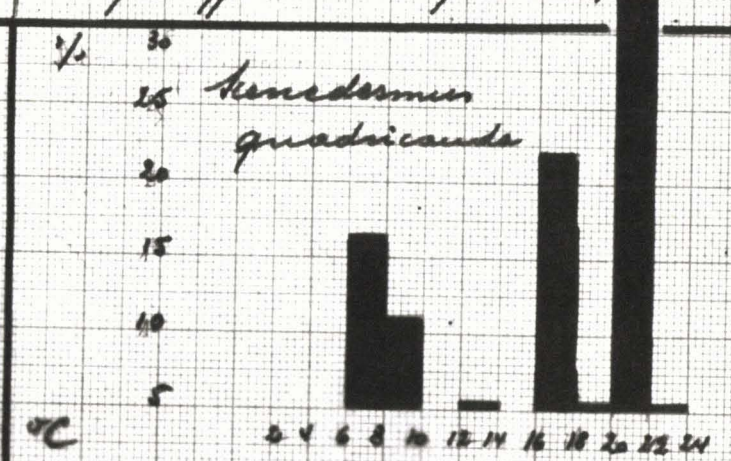
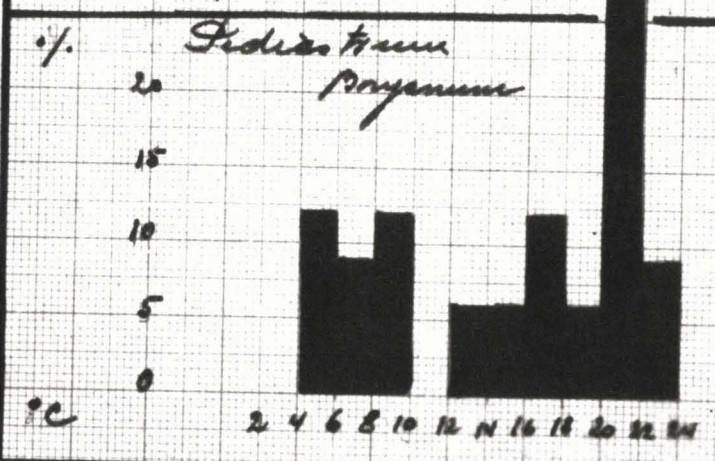
Nitzschia tigrinoides



Millatris angustae

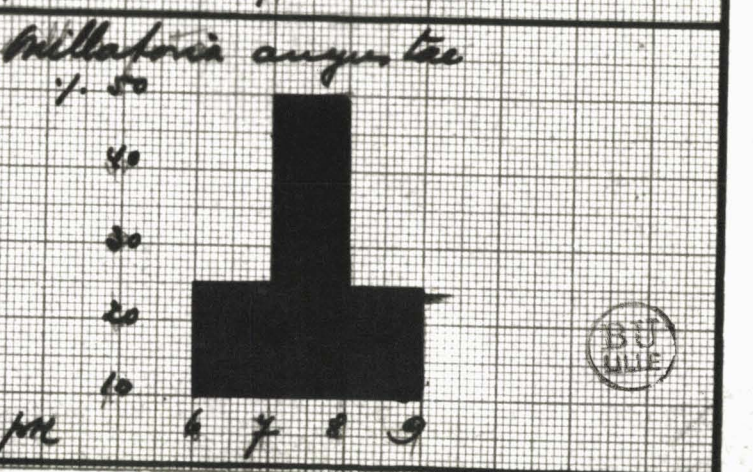
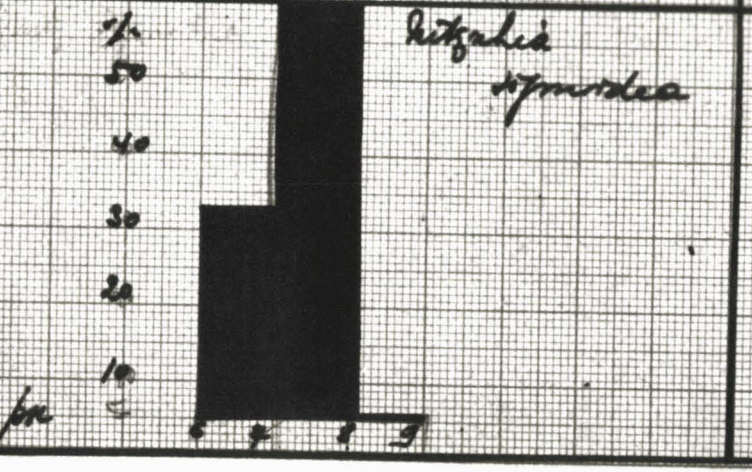
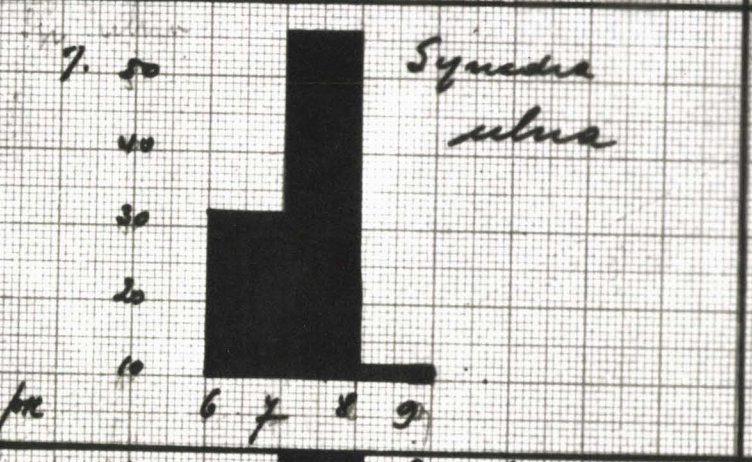
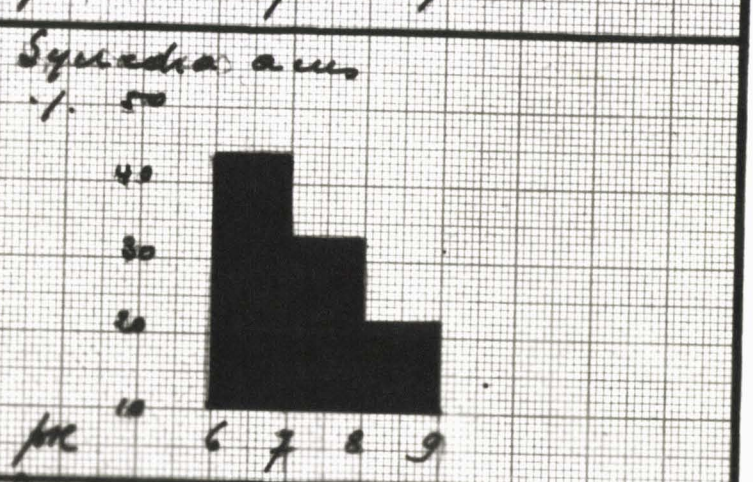
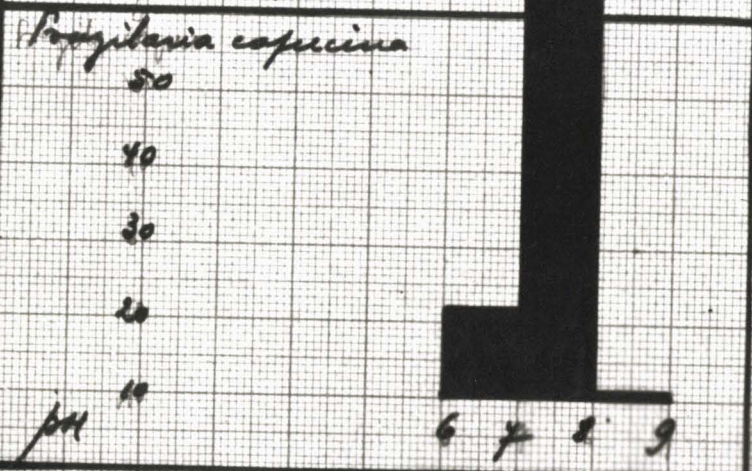
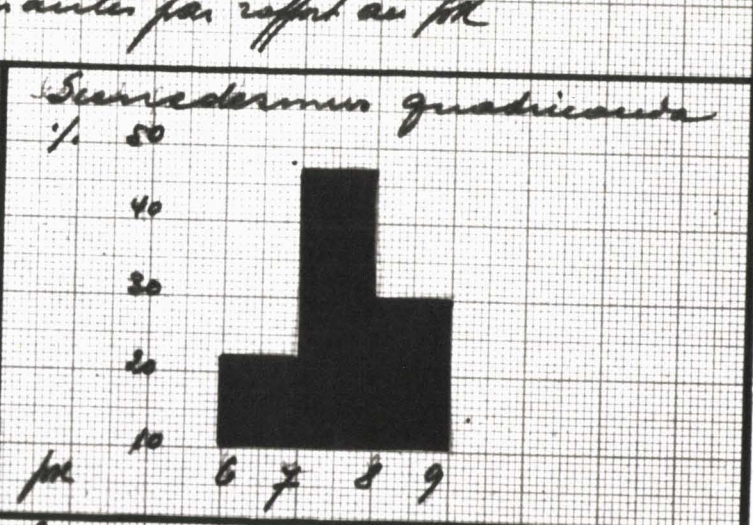
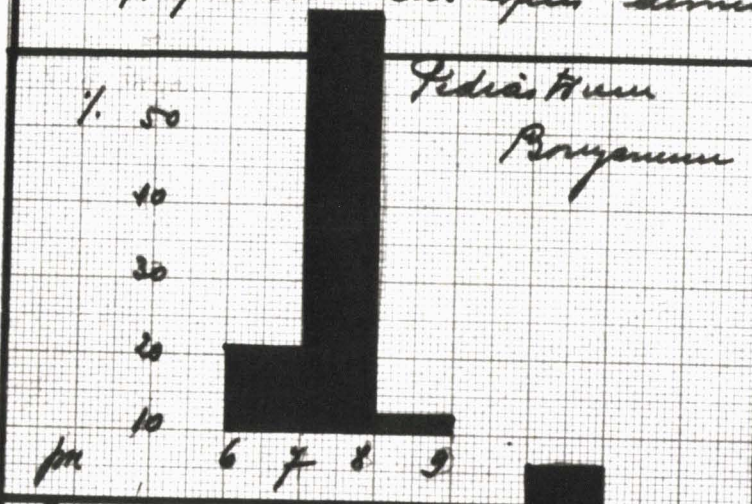


Plancton éary à Brèmes.
Fréquences des espèces dominantes par rapport à la Température.



Plantas etas y a Primer.

Frecuencia de especies dominantes por rosetal en m²

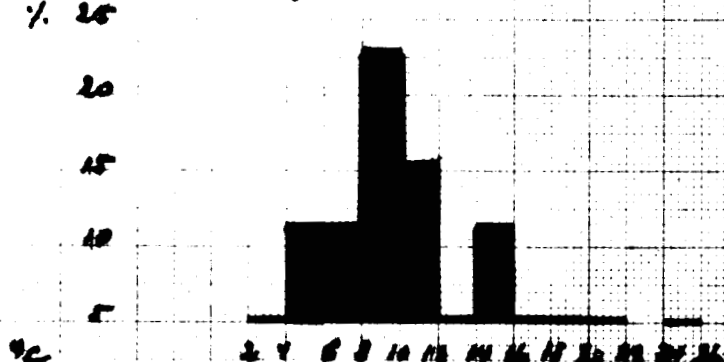


Plancton échant. de Prineau
 Fréquences des espèces planctoniques dominantes par rapport à la température

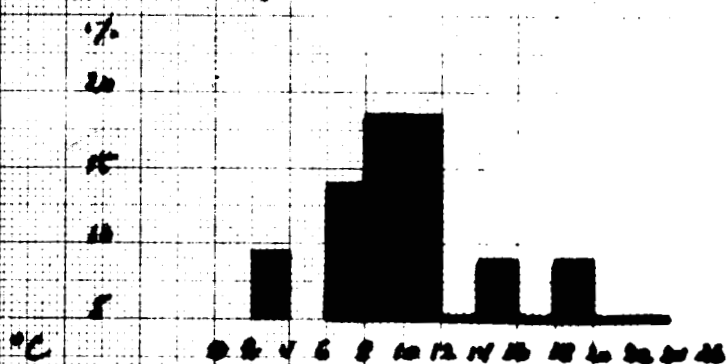
Pediculus Acanthoarganum



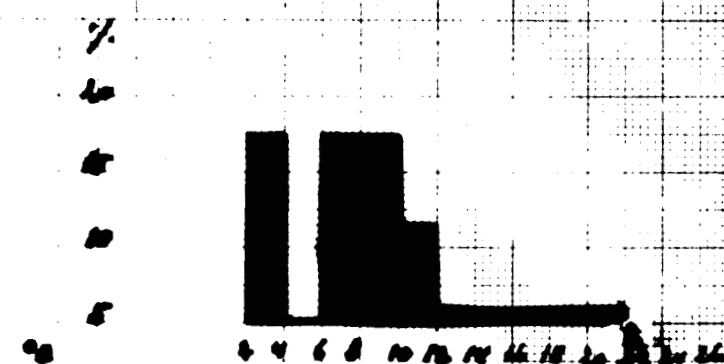
Scenedesmus quadricauda



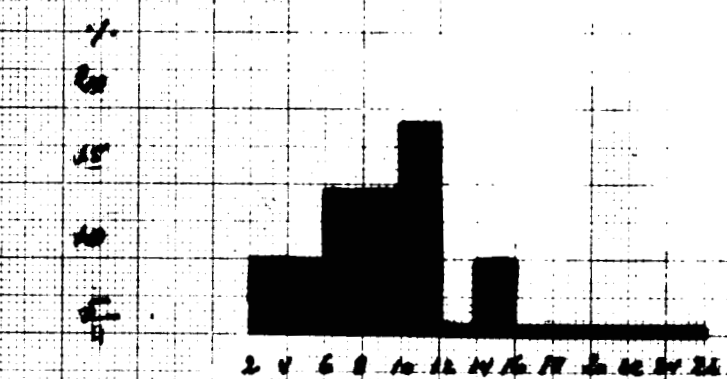
Frugilaria capucina



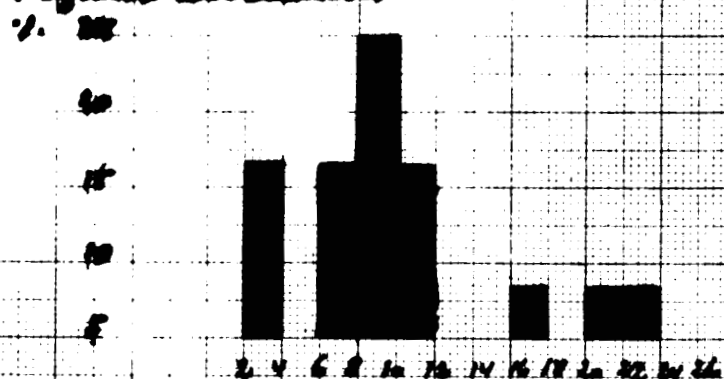
Synedra acus



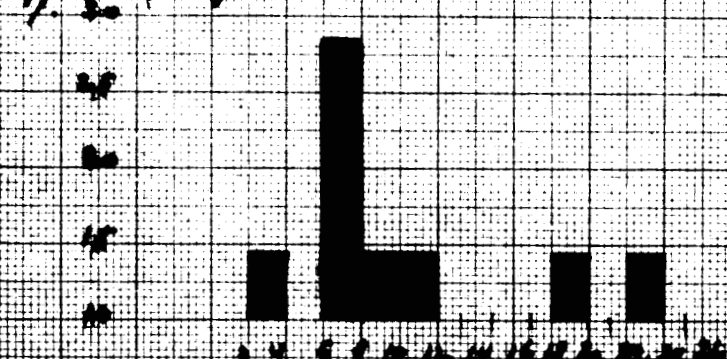
Synedra ulna



Cephalis arcuata



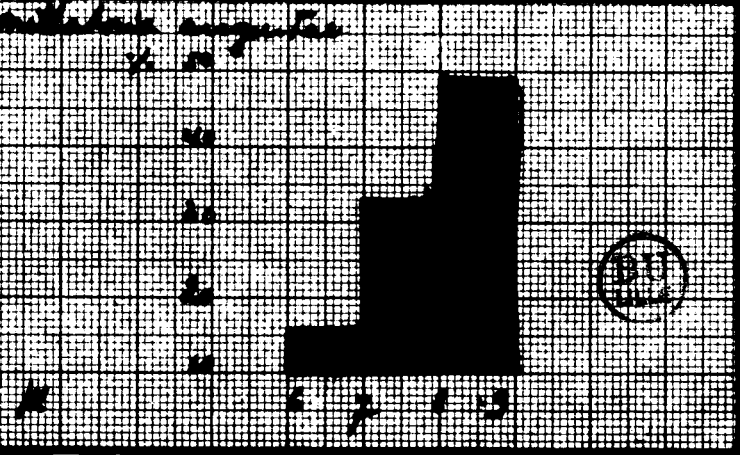
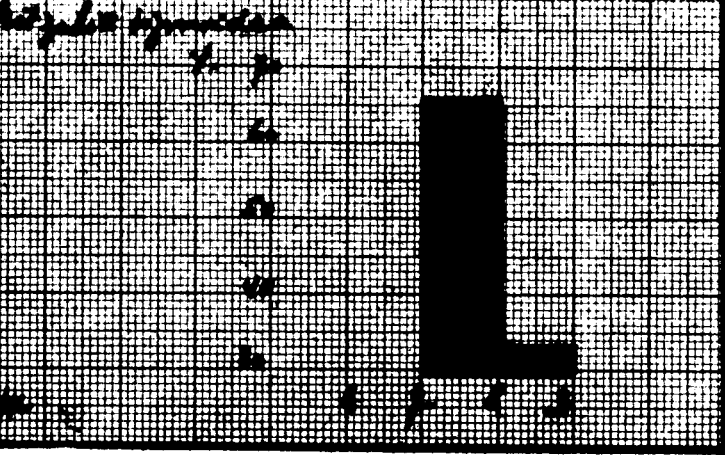
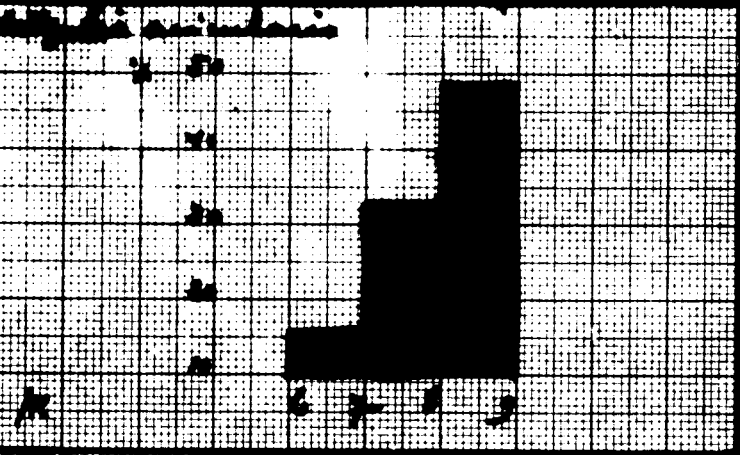
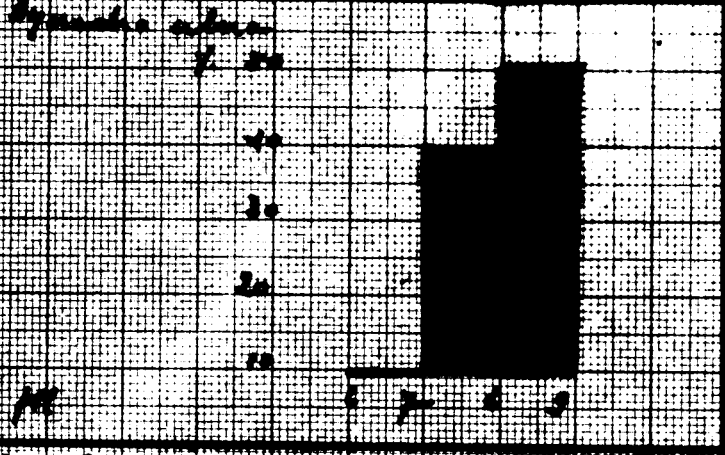
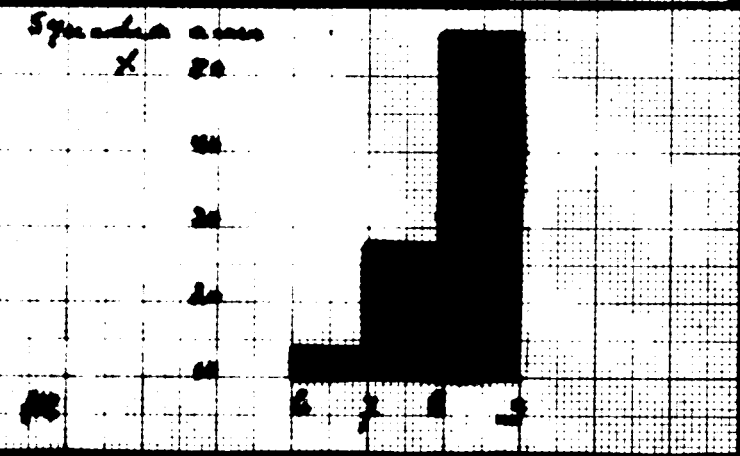
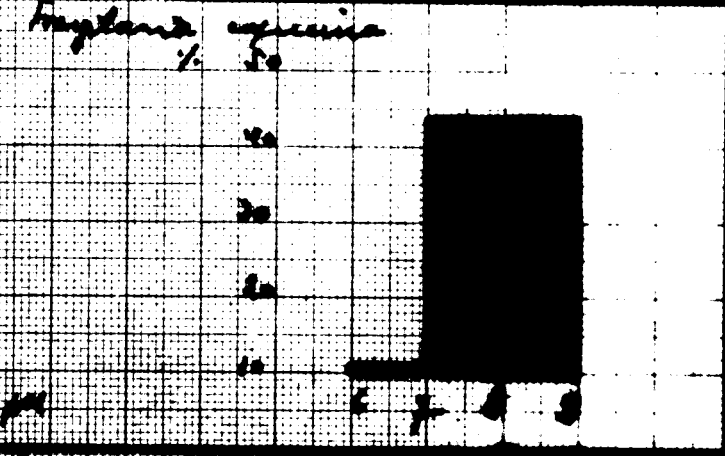
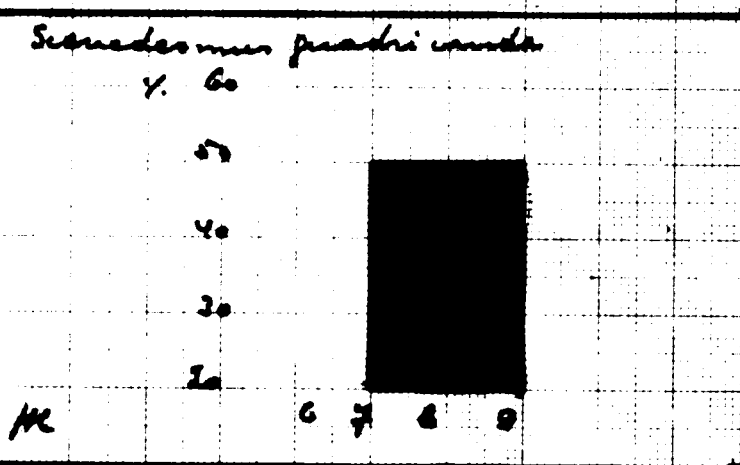
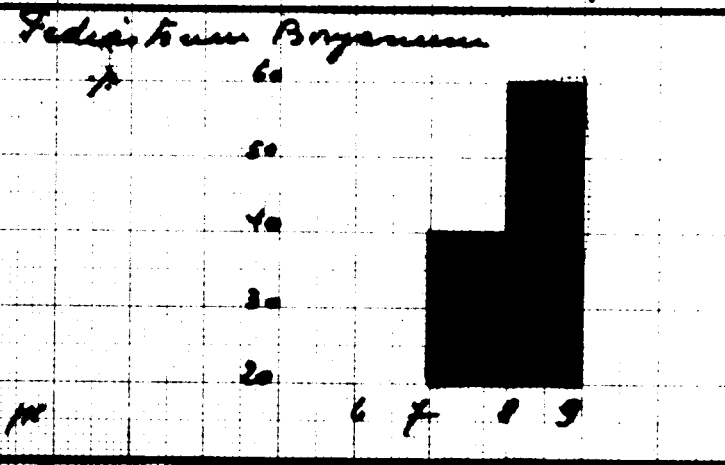
Diaptomus sicilis



Milnesium angustac

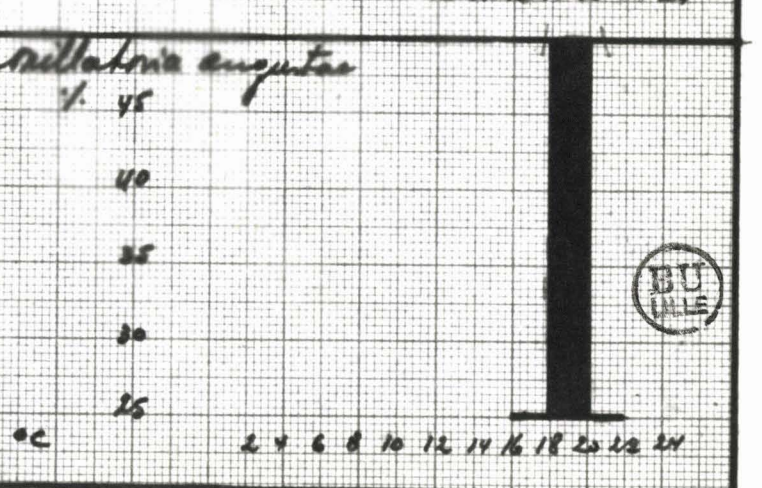
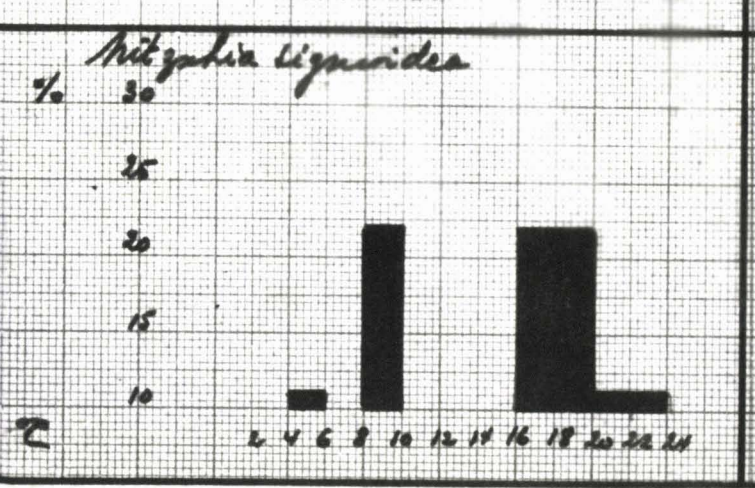
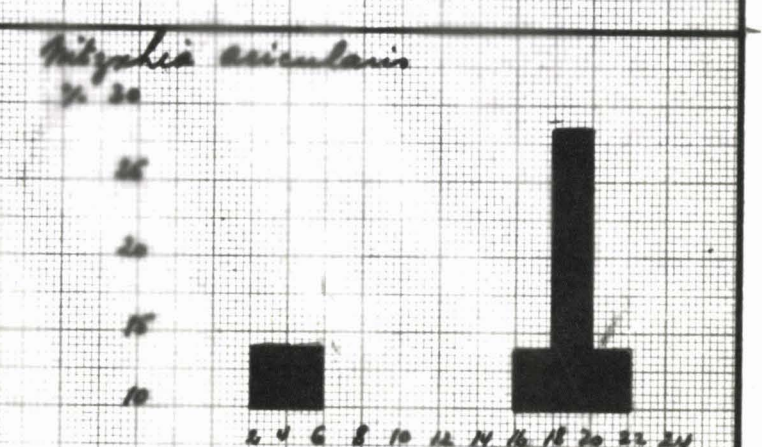
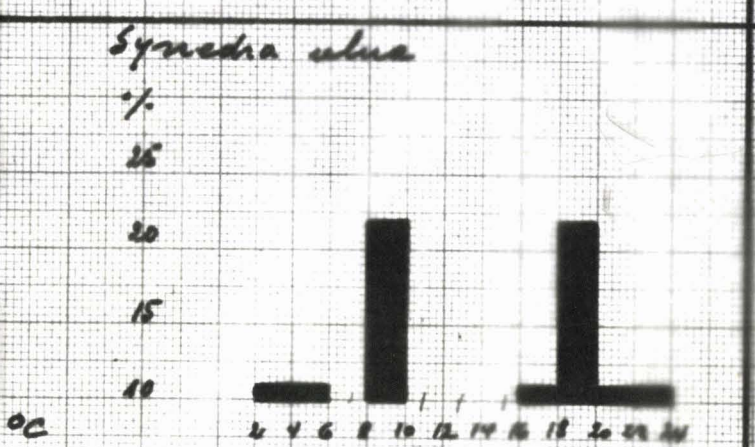
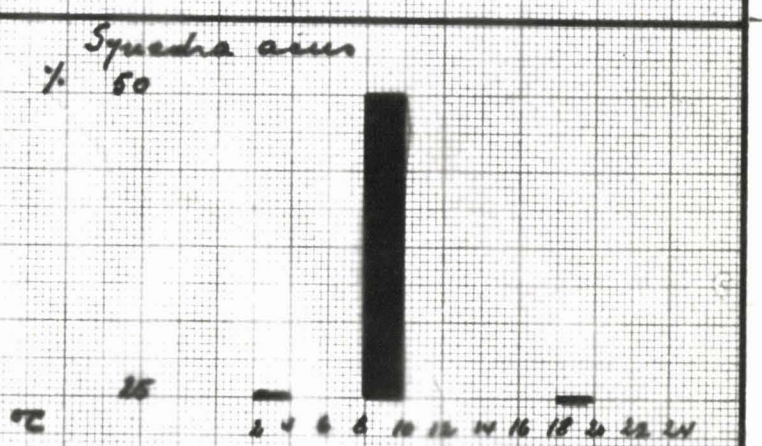
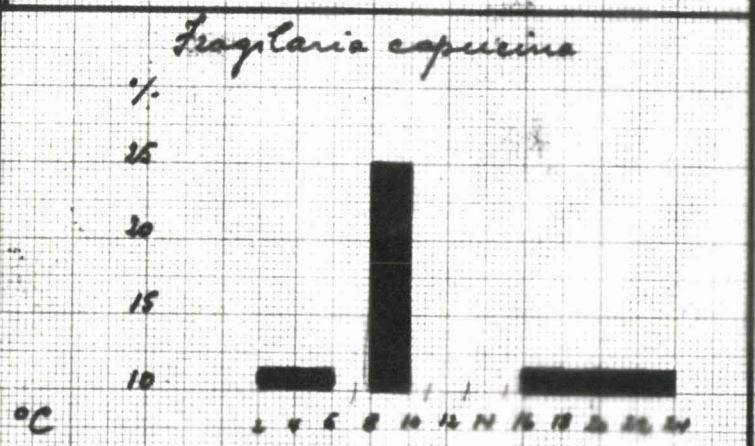
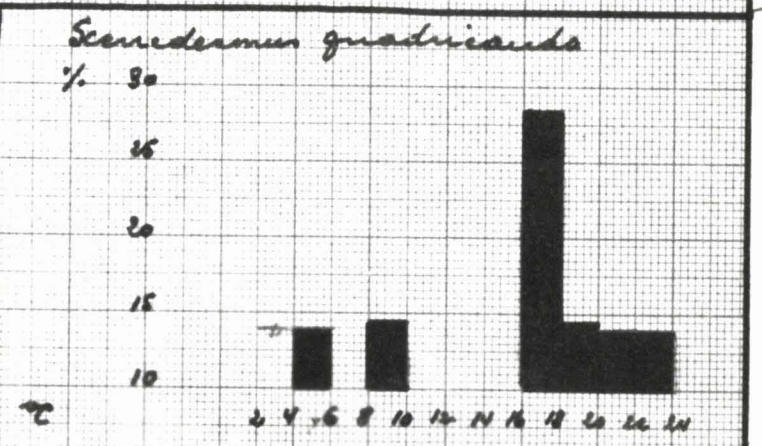
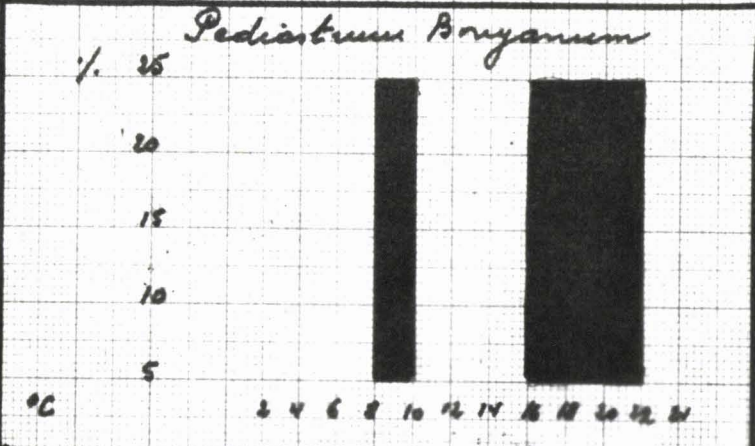


Frequencies des especes dominantes du plancton,
par support au pL
Etang de Brinsua



Plankton étang de Boves.

Fréquence des espèces planctoniques dominantes par rapport à la température



Frequences des espèces dominantes du plancton
par rapport au pH.
Etang de Boves

Ediastiraux longimanus

% 70

60

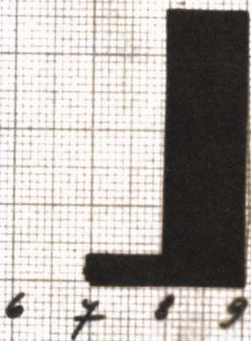
50

40

30

pH

6 7 8 9



Sarcodermis gracilicauda

% 50

40

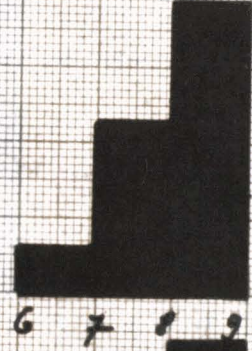
30

20

10

pH

6 7 8 9



Fraxillaria capensis

% 50

40

30

20

10

pH

6 7 8 9



Synedra aerea

% 60

50

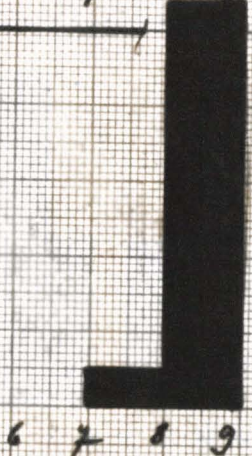
40

30

20

pH

6 7 8 9



Synedra ulna

% 50

40

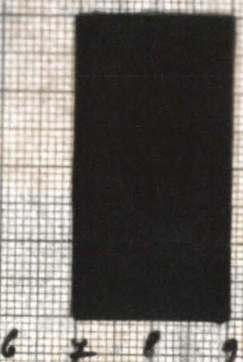
30

20

10

pH

6 7 8 9



Mitzybia acicularis

% 70

60

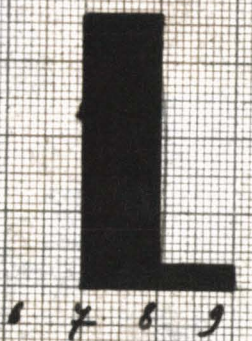
50

40

30

pH

6 7 8 9



Mitzybia tyroidea

% 50

40

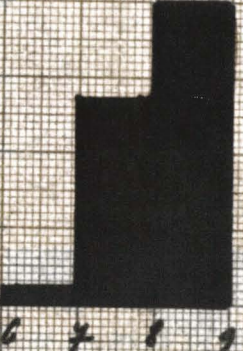
30

20

10

pH

6 7 8 9



Mullatonia angustae

% 50

40

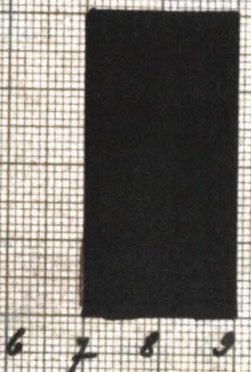
30

20

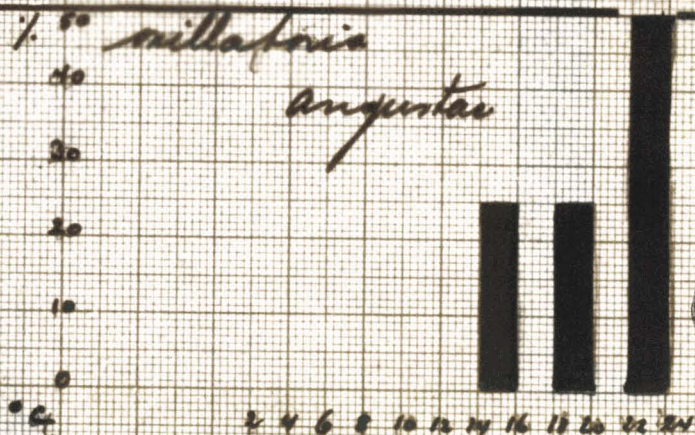
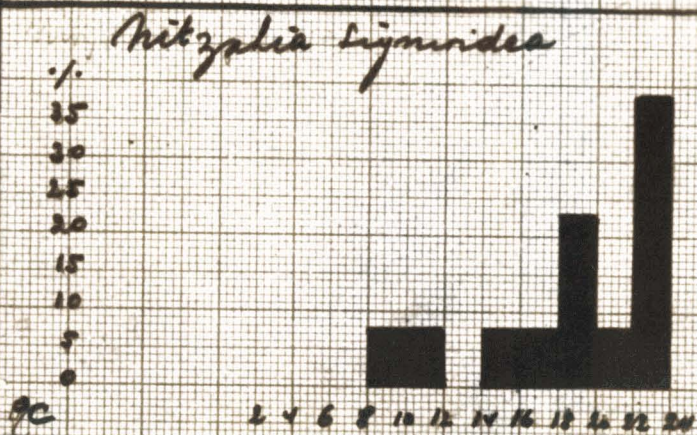
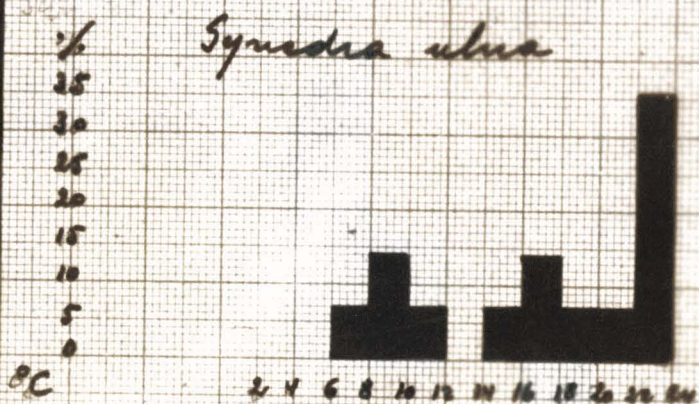
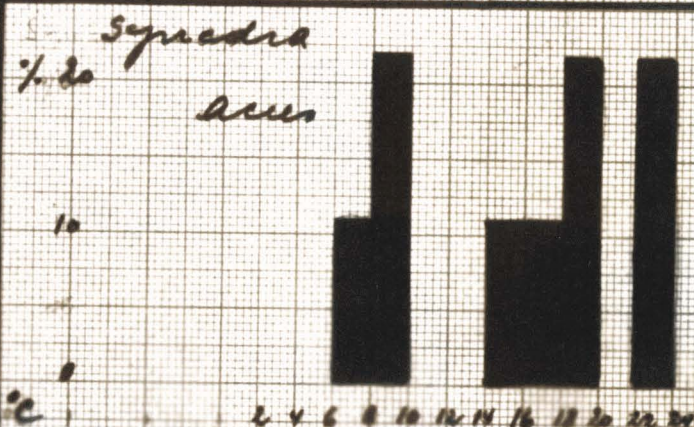
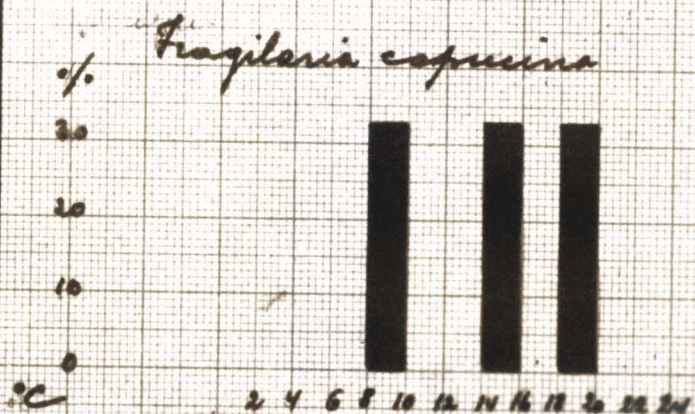
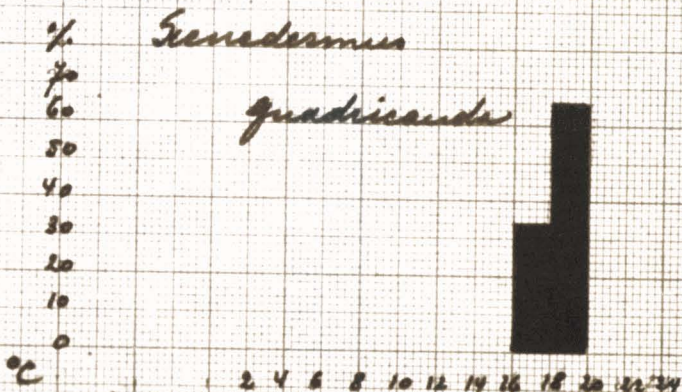
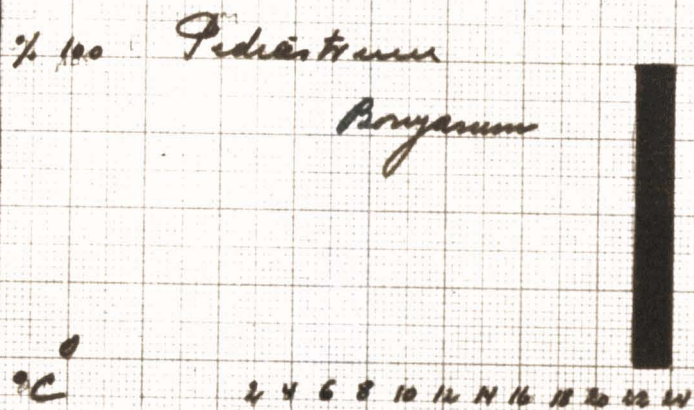
10

pH

6 7 8 9

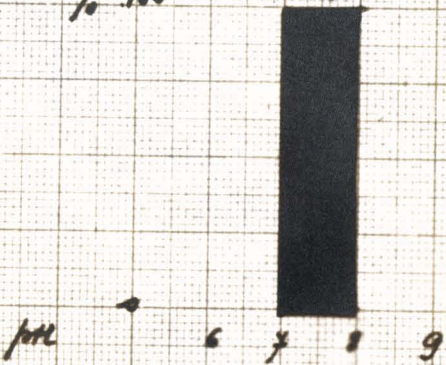


Plancton échant. à Saint Omer.
Fréquence des espèces dominantes par rapport à la température

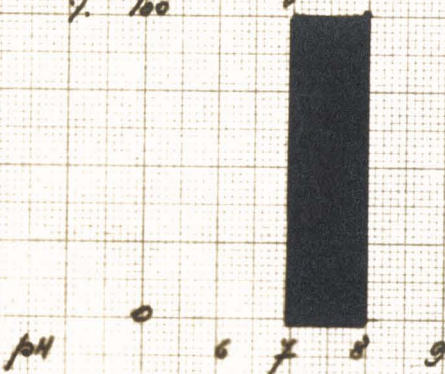


Fréquences des espèces dominantes des plantes
par rapport au pH.
Etang de Saint Amand.

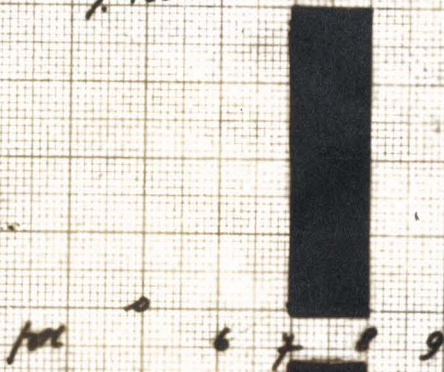
Pedicularis Boyanum
‰ 100



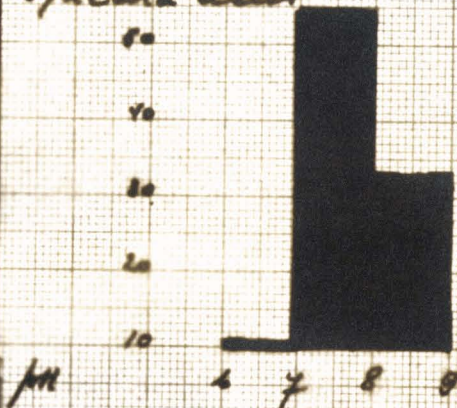
Scirpodesmon quadricauda
‰ 100



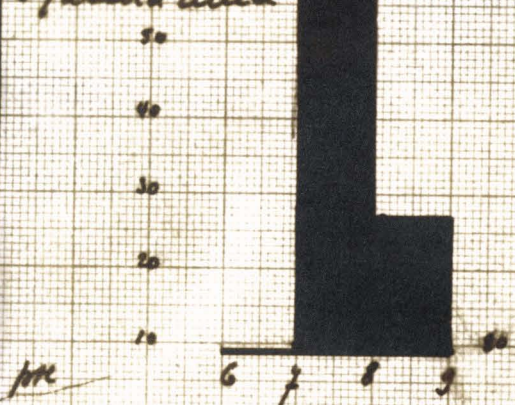
Ragilaria capucina
‰ 100



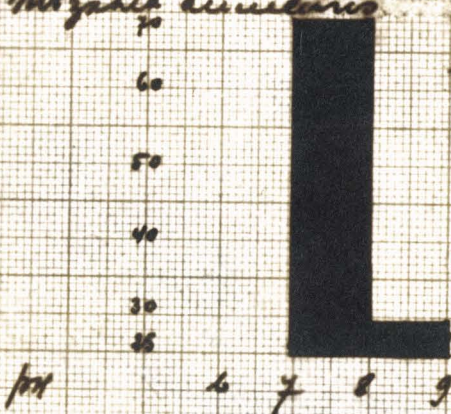
Synedra avar



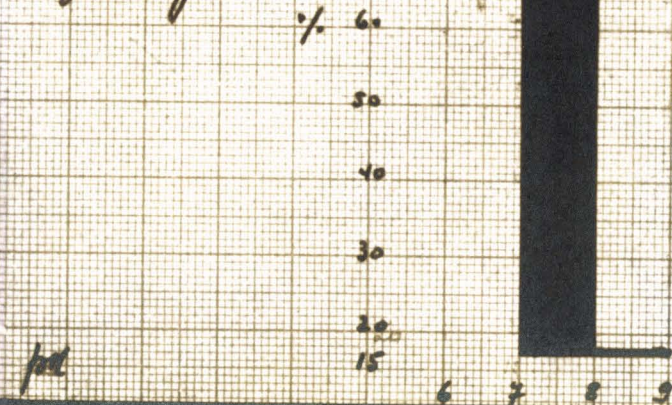
Synedra ulua



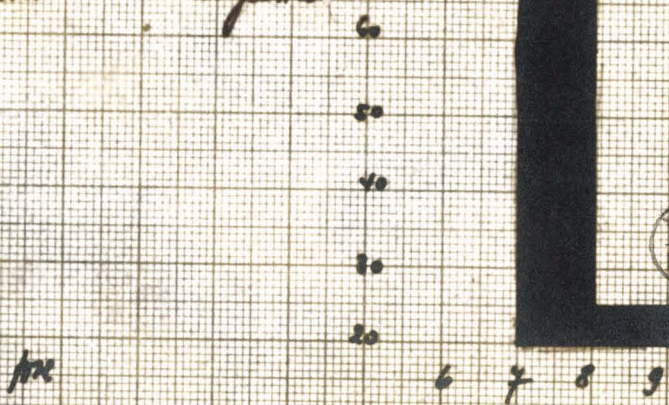
Mitralis cimelaria



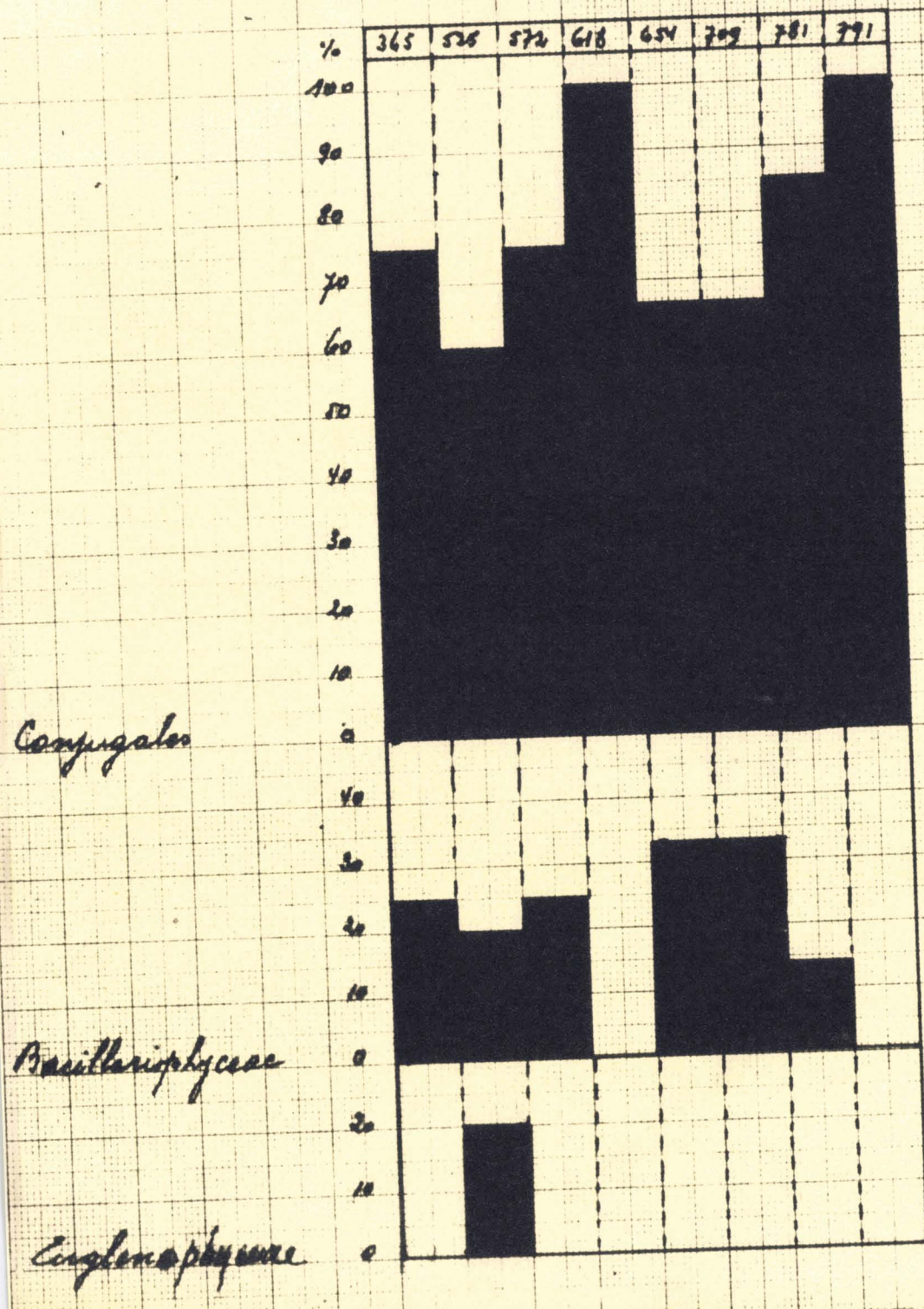
Mitralis lignivida



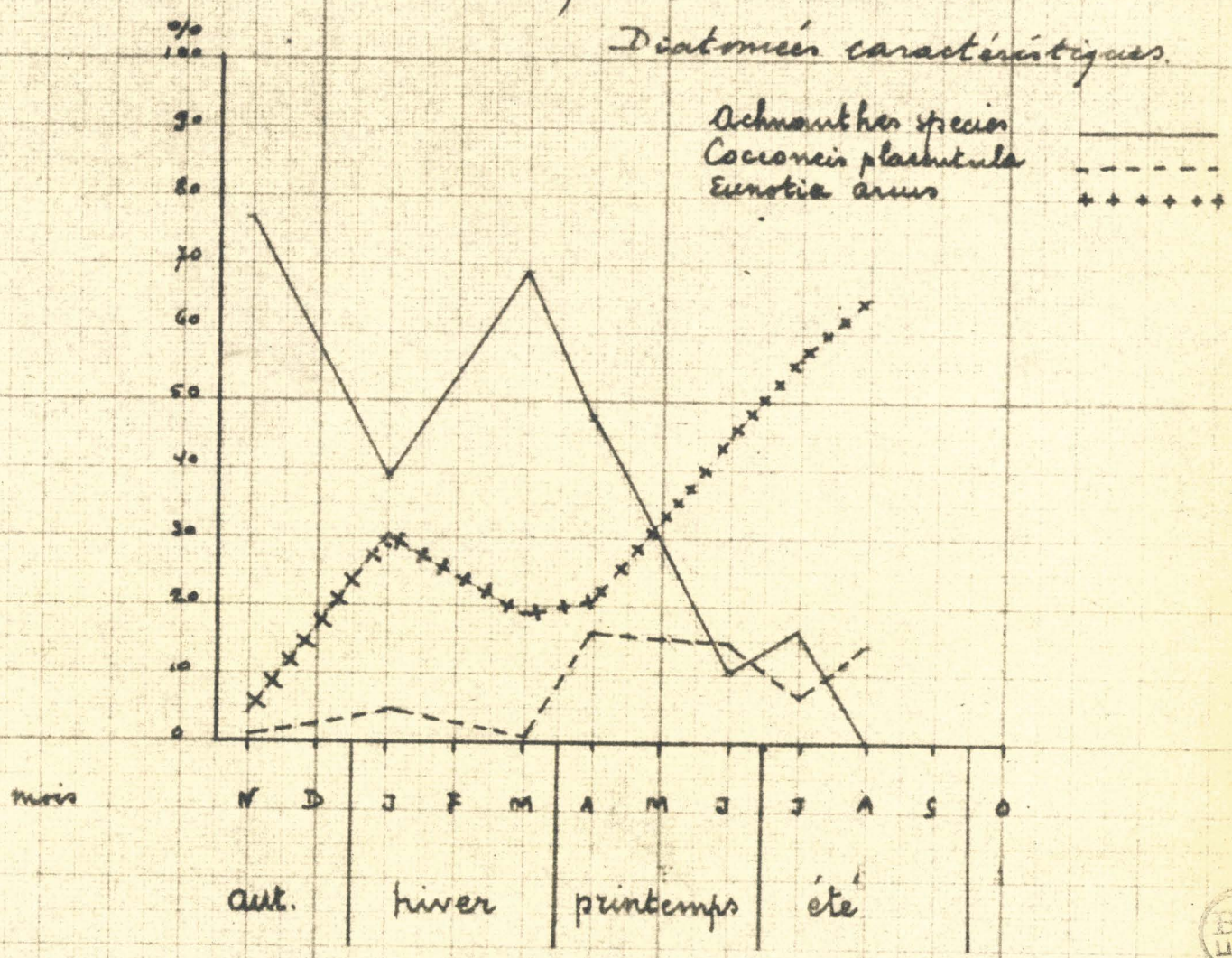
millaria angusta



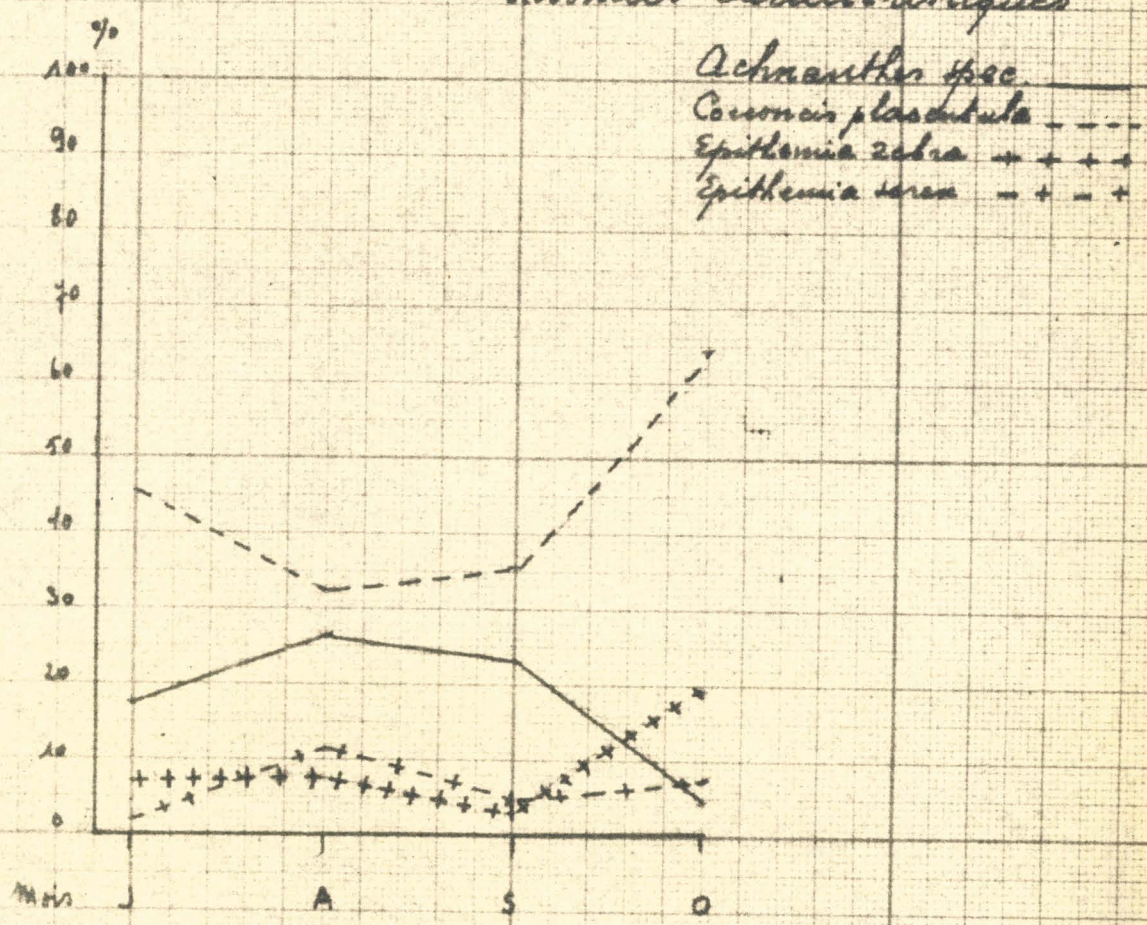
Neoubien de Saint Bernard
Répartition centésimale de divers groupes
et familles du phytoplancton.



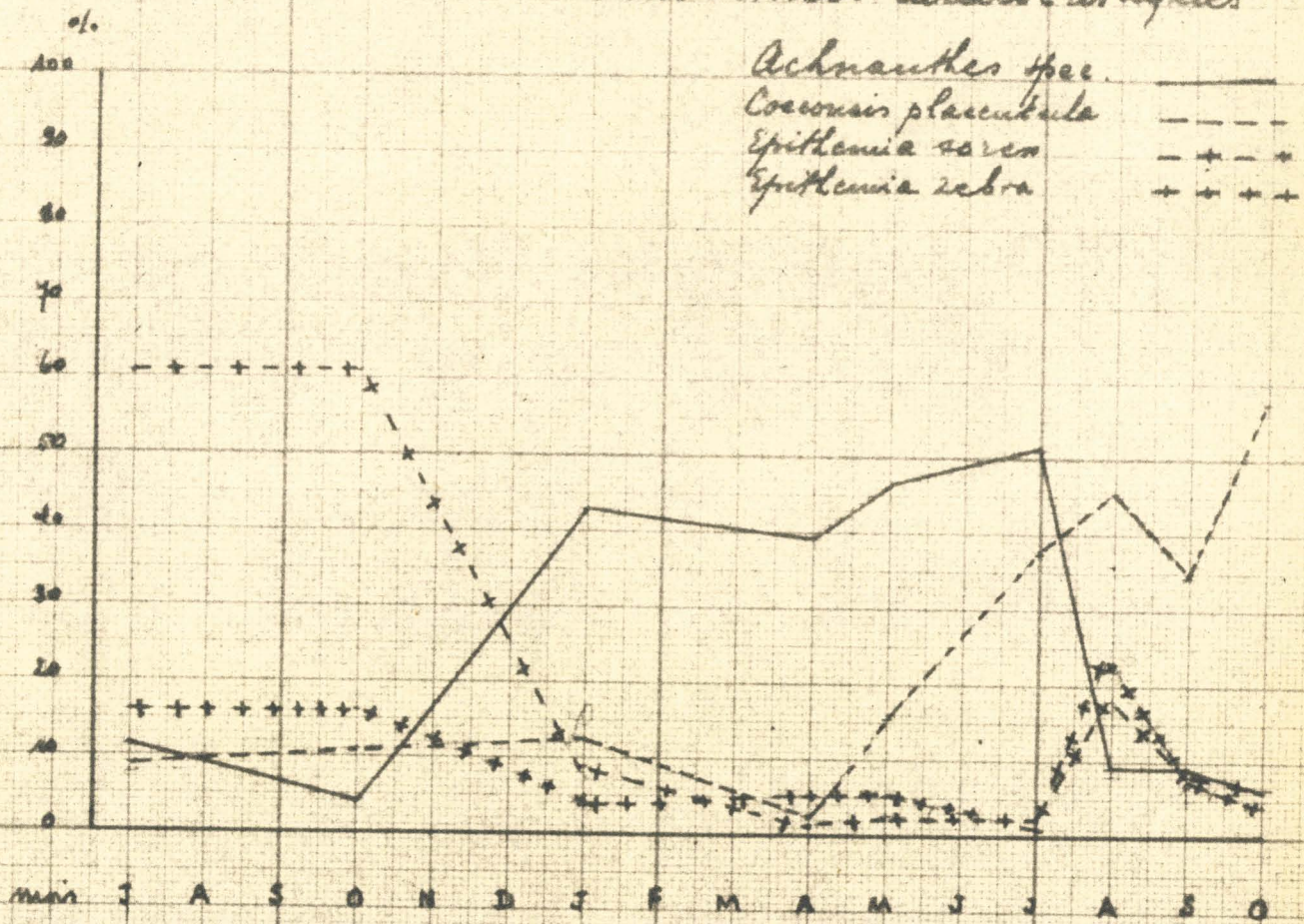
Etang de Rumaucourt.
 Epiphytes sur *Myriophyllum spicatum*
 Répartition centésimale des
 Diatomées caractéristiques.



Etang d'Ordres
 Epiphytes sur *Potamogeton lucens*
 Répartition centésimale des
 Diatomées caractéristiques

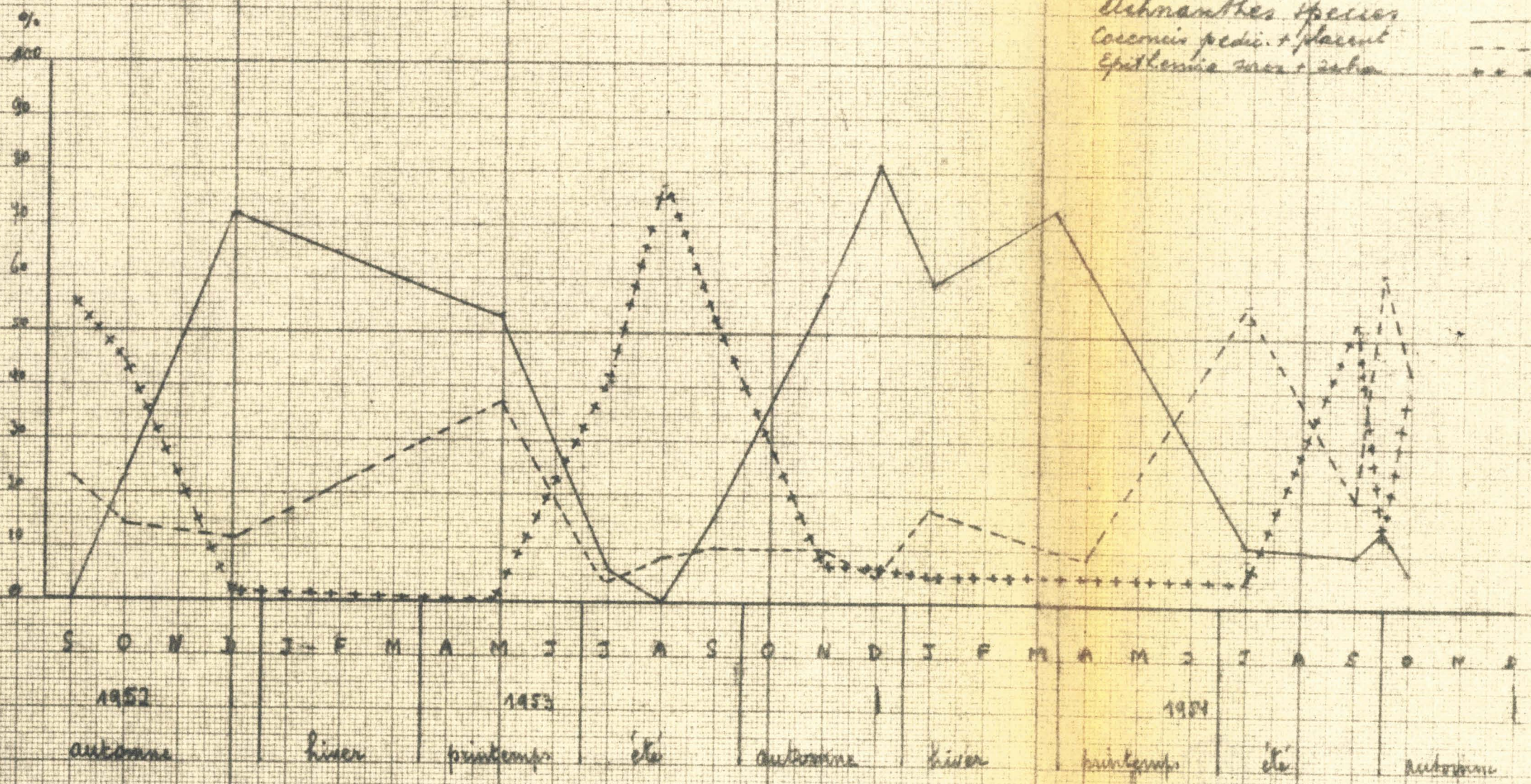


Etang d'Ordres
 Epiphytes sur Potamogeton natans
 Répartition mensuelle des
 Diatomées caractéristiques

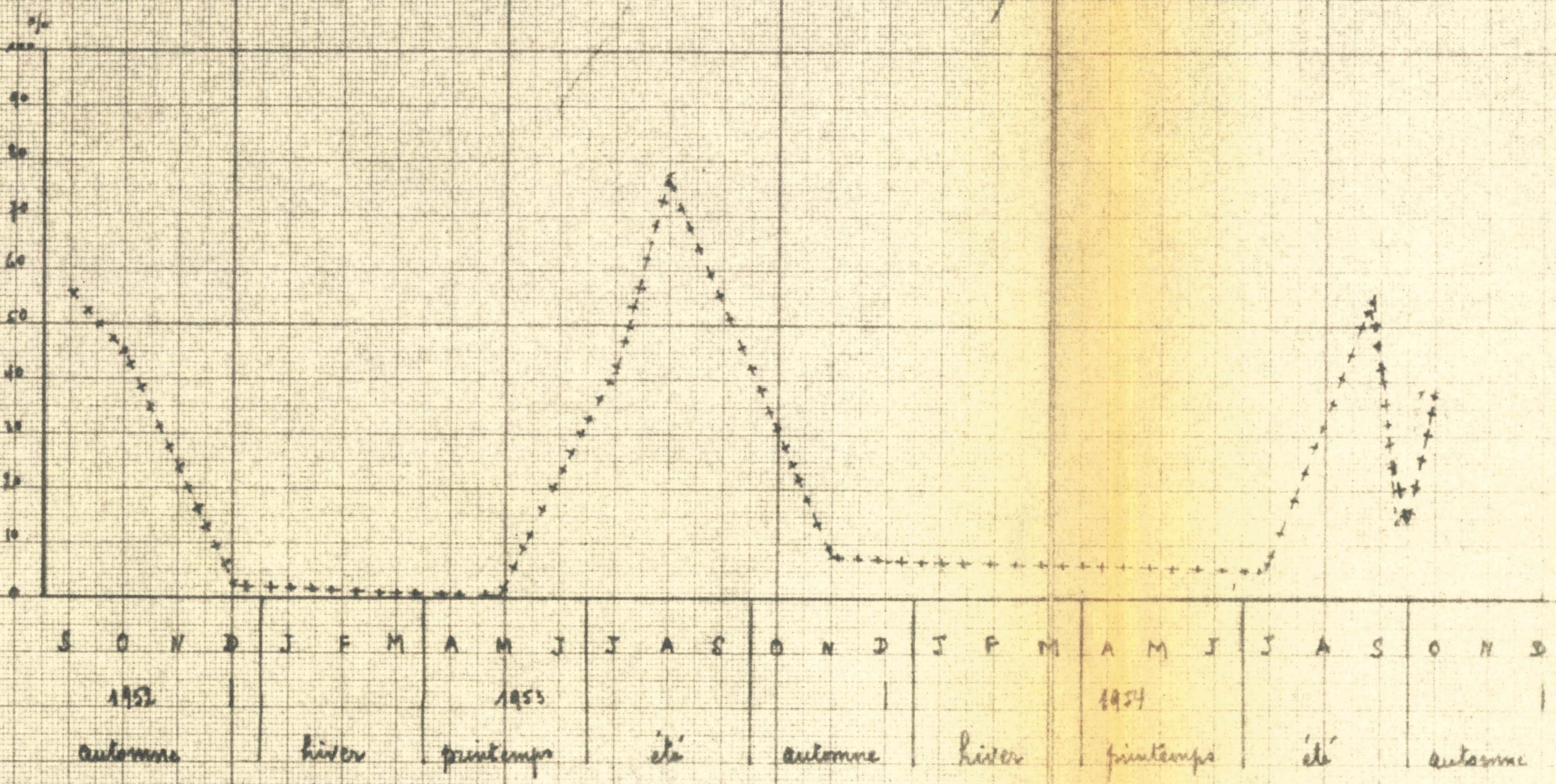


Etang de Brèmes
 Epiphytes sur *Potamogeton natans*
 Répartition centésimale des
 Diatomées caractéristiques

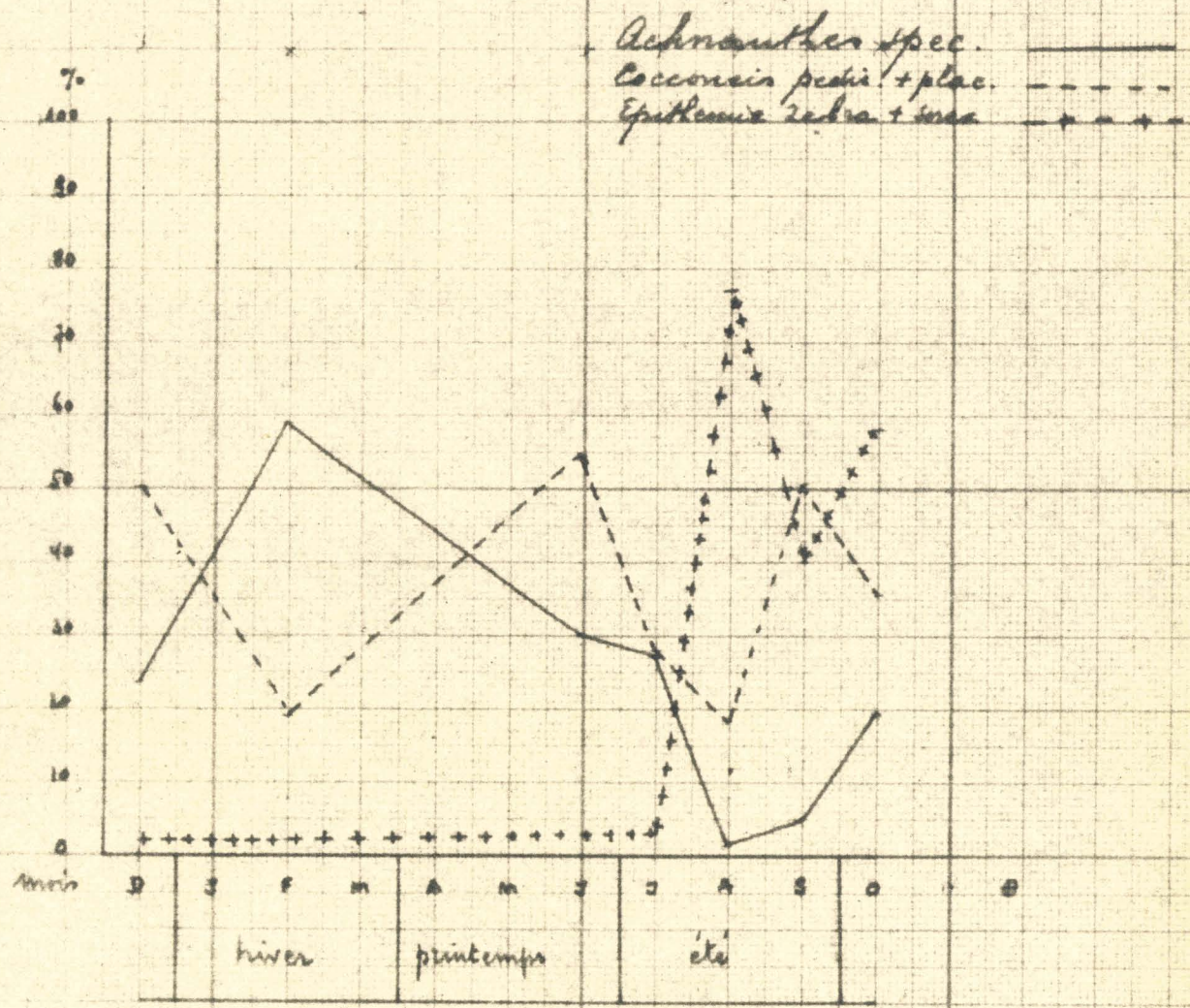
Achnanthes species ———
Coenocia pedic. + placent - - - - -
Epithemia sars + suba * * * * *



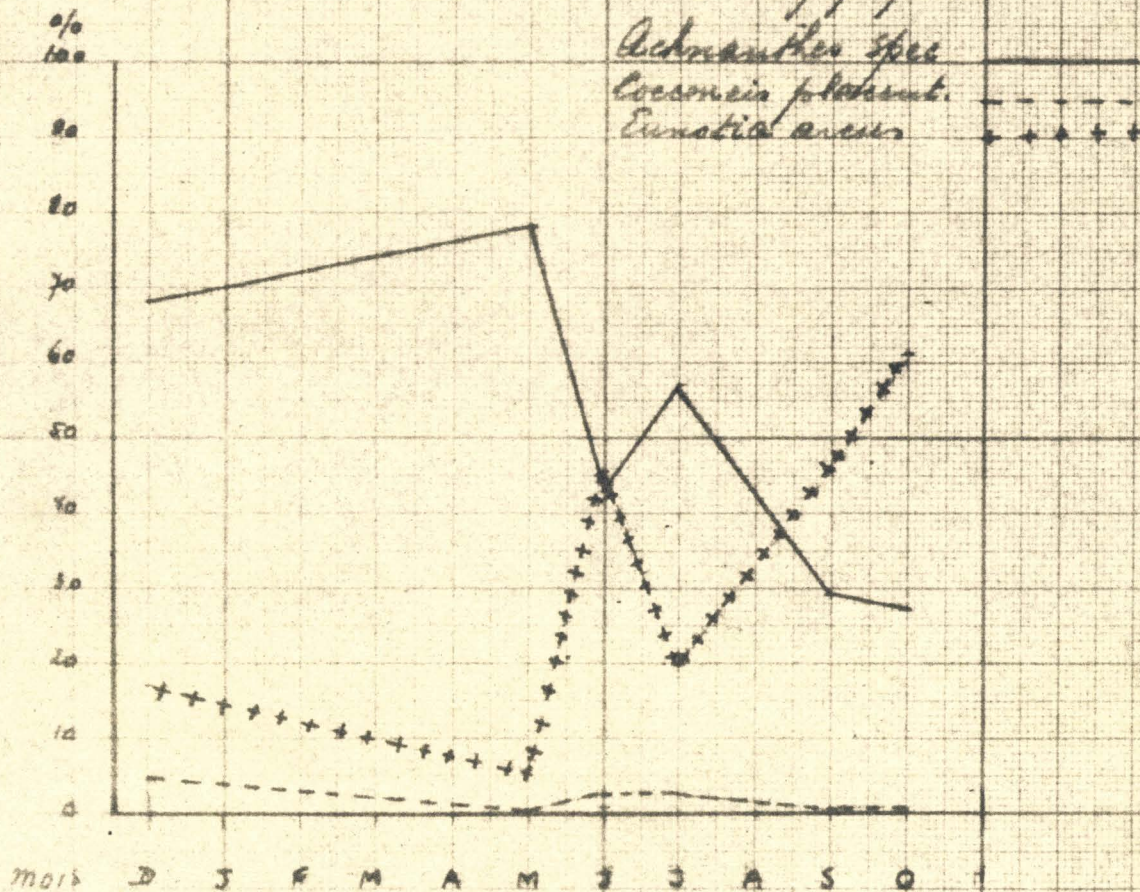
Etang de Brèmes
 Epiphytes sur Potamogeton natans
 Répartition saisonnière des
 Diatomées épiphytes
 Epithemia saxon + rebra.



Etang de Brèmes
 Epiphytes sur *Myriophyllum spicatum*
 Répartition centésimale des
 Diatomées caractéristiques

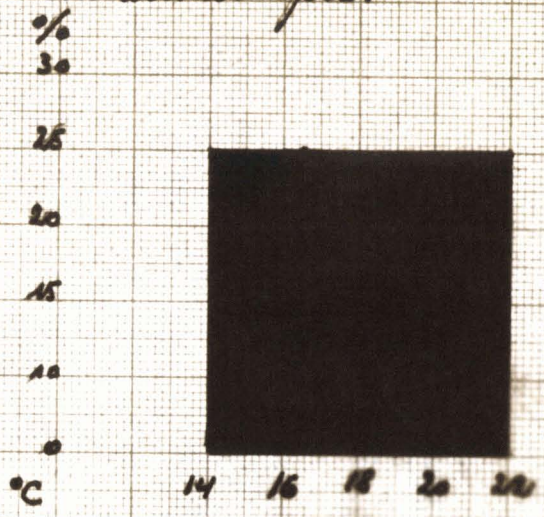


Etang de Bevers
 Epiphytes sur *Myriophyllum spicatum*
 Répartition mensuelle des
 Diatomées épiphytes.

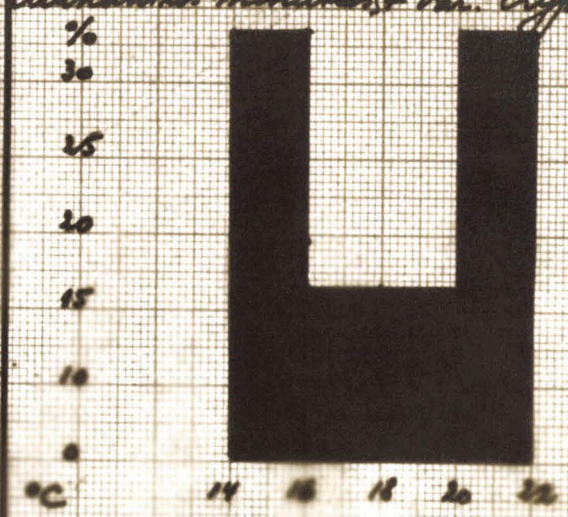


Séquence des espèces par rapport à la température
Epiplotes sur Potamogeton lucens

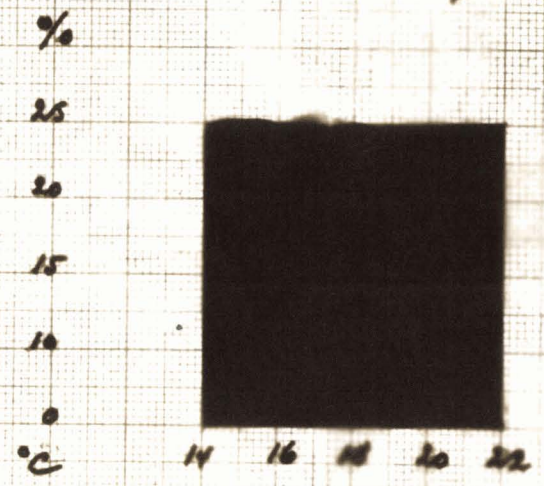
Achnanthes spec.



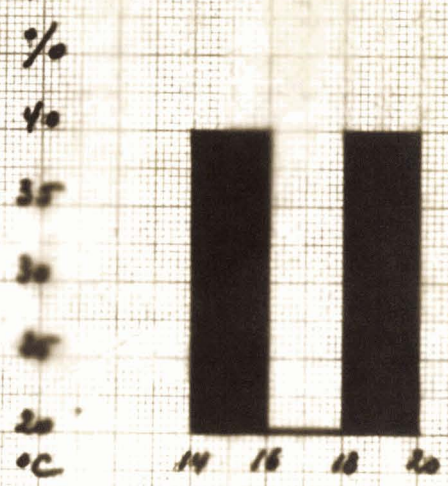
Achnanthes minutiss var. *cryptoptala*



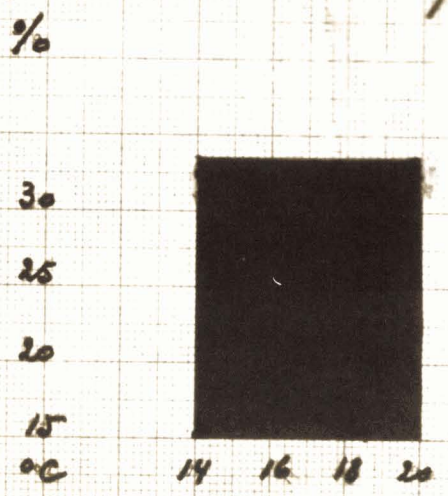
Cocconeis placentula et *pediculus*



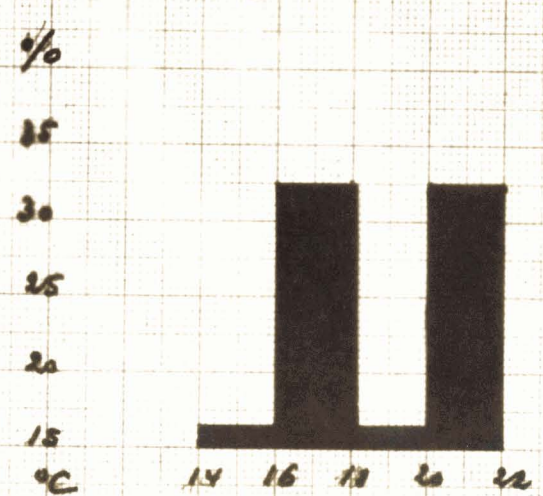
Epithemia spec.



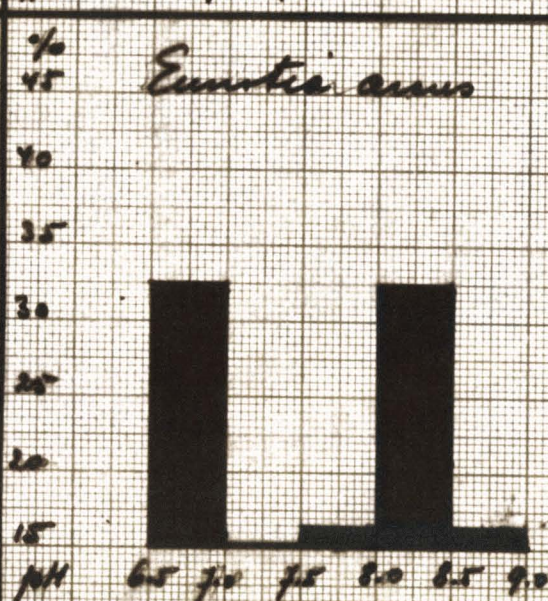
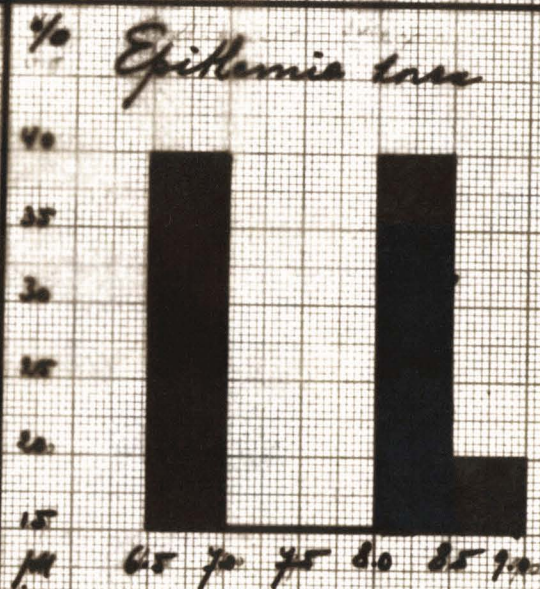
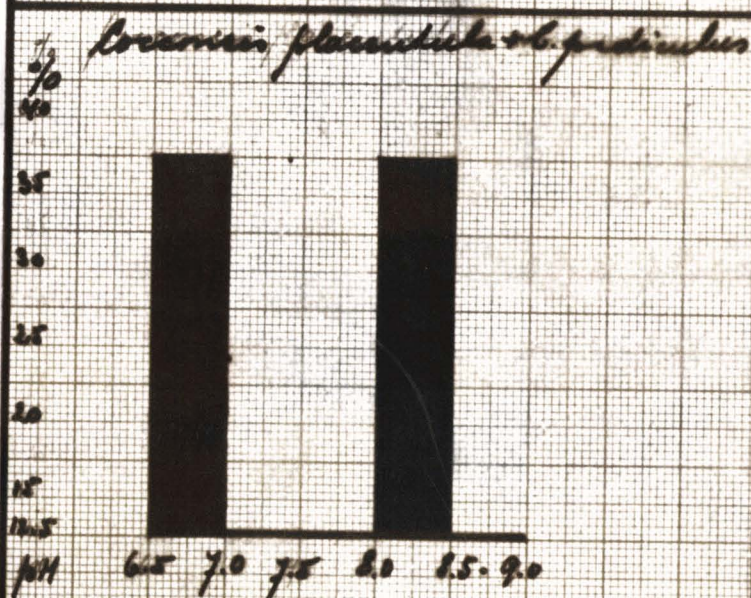
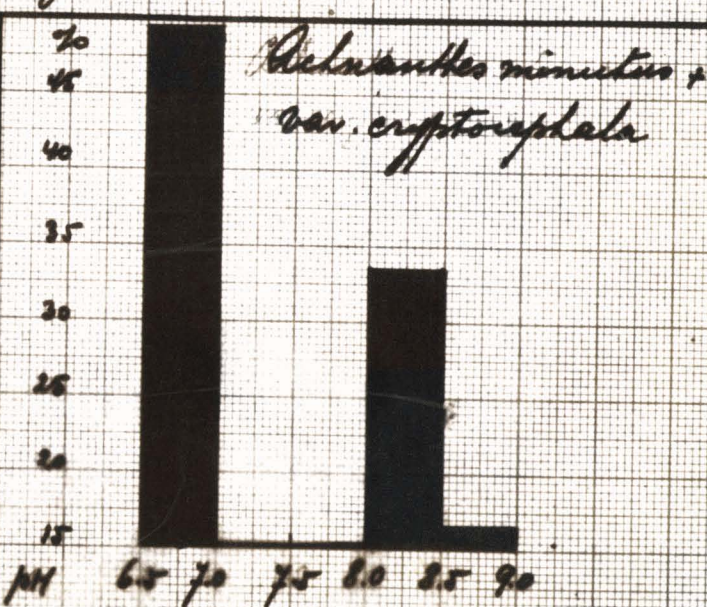
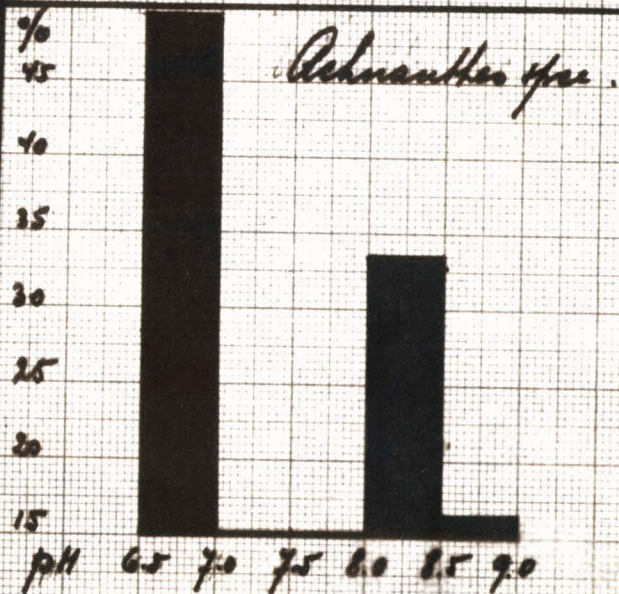
Epithemia zebra + var. *porcellus*



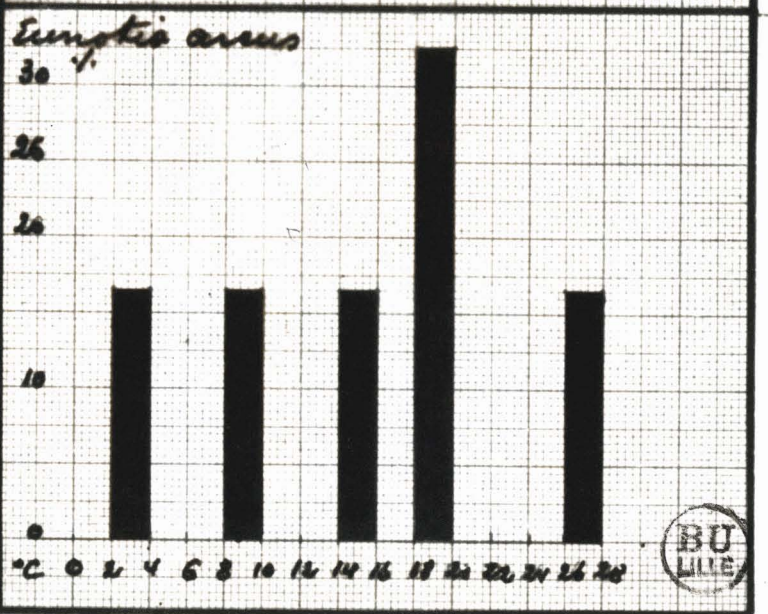
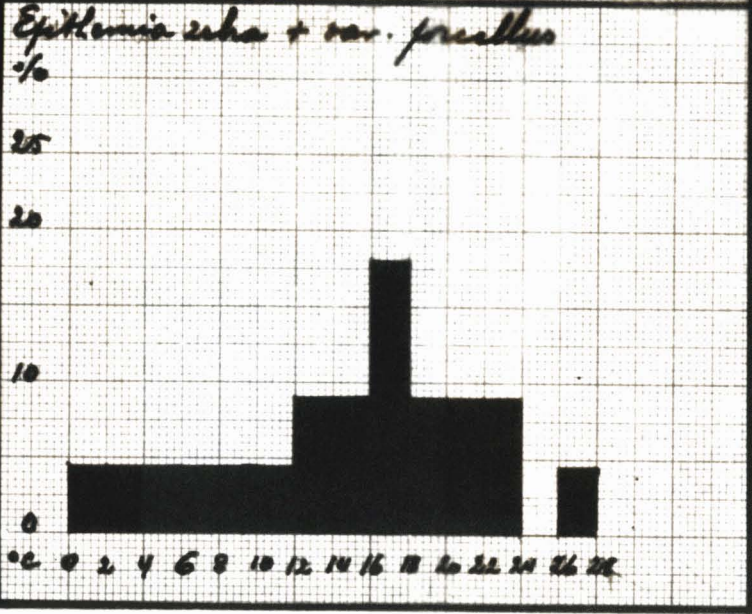
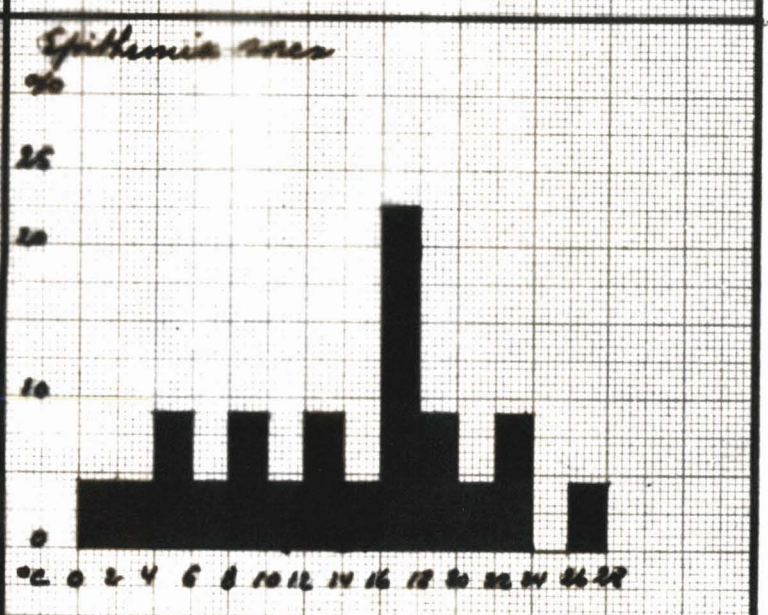
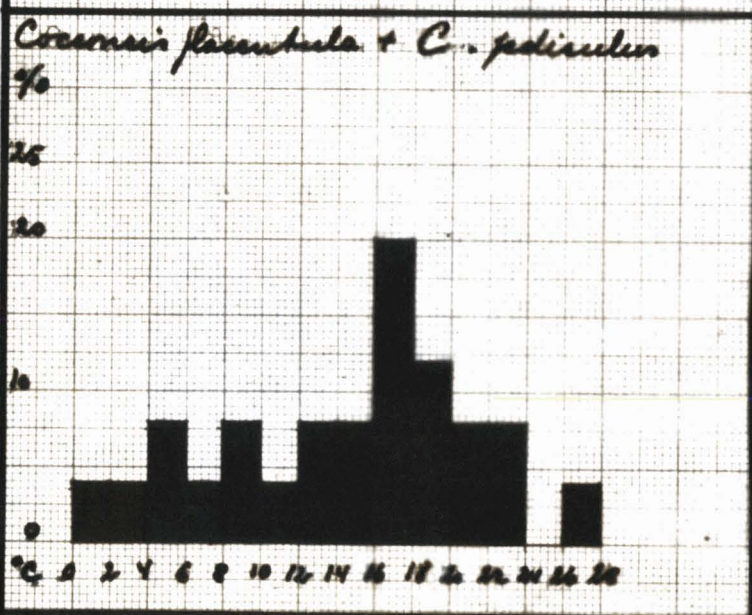
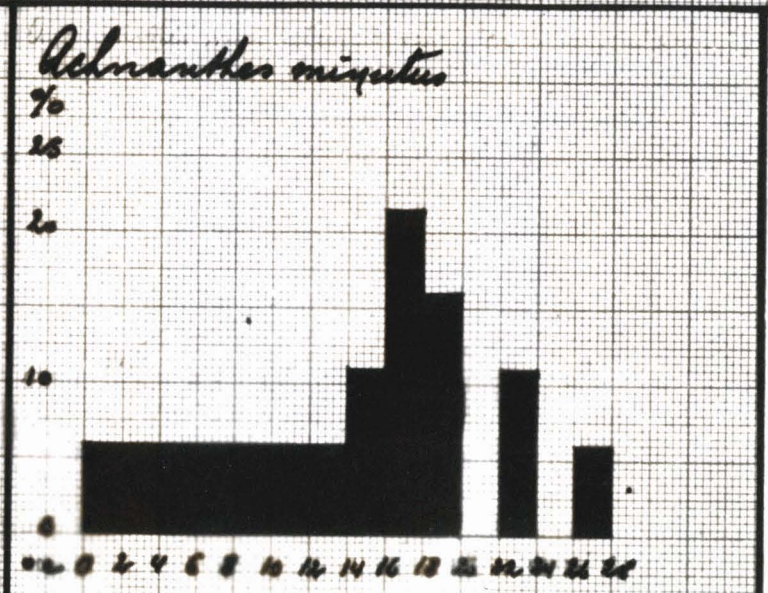
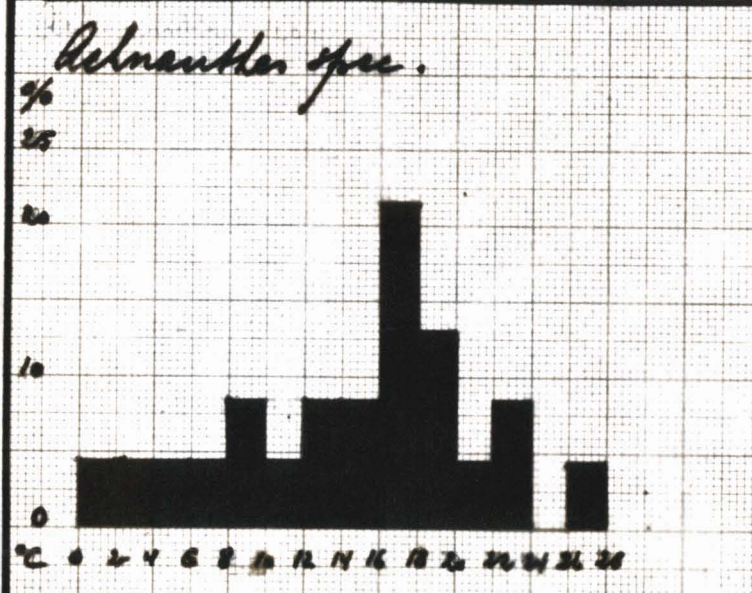
Eumotis arcus



Frequencia das espécies em relação ao pH.
 Epífitas em Potamogeton lucens

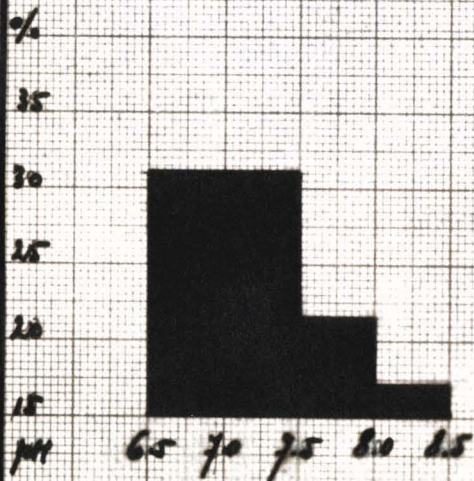


Fréquences des espèces par rapport à la température.
Epiphytes sur *Potamogeton natans*.

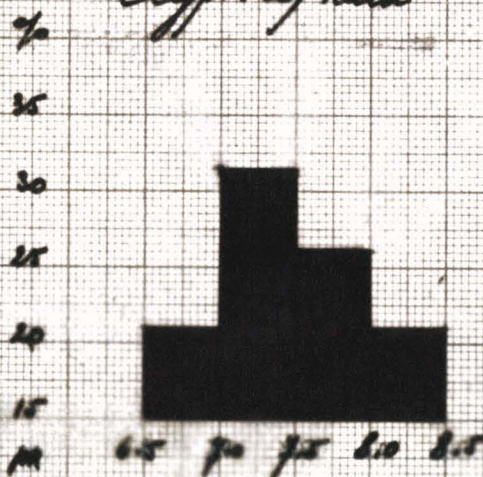


Frequencia des apices fere rapport au pH.
Epiphytes sur *Polypodium natans*

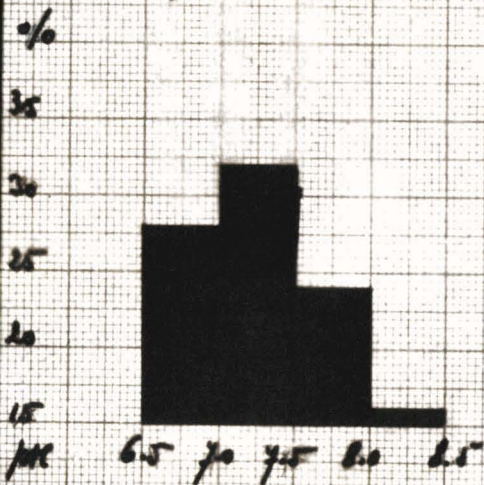
Delonanthus spec.



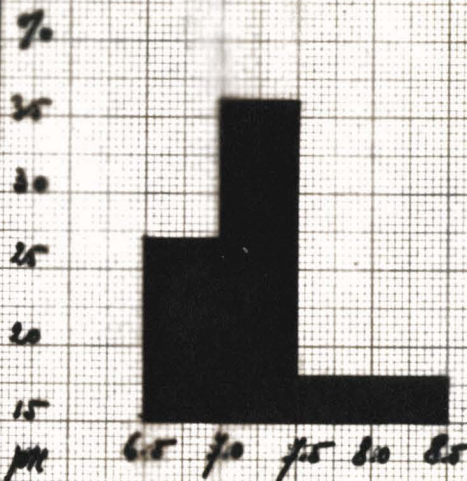
Delonanthus minutus + var.
cryptocepala



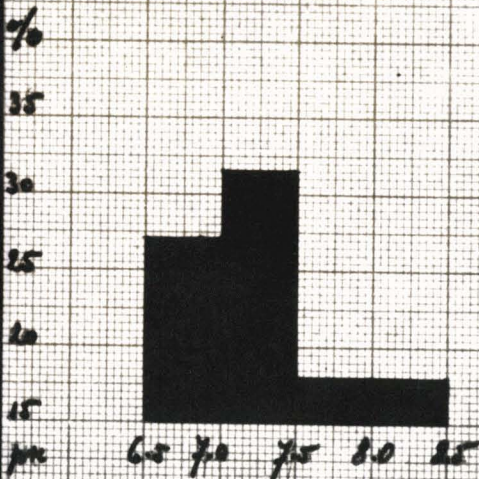
Coccomia fasciculata + *C. pediculus*



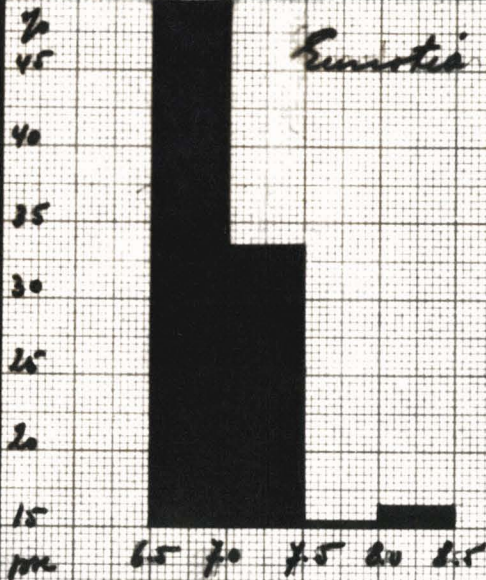
Epithemia tene



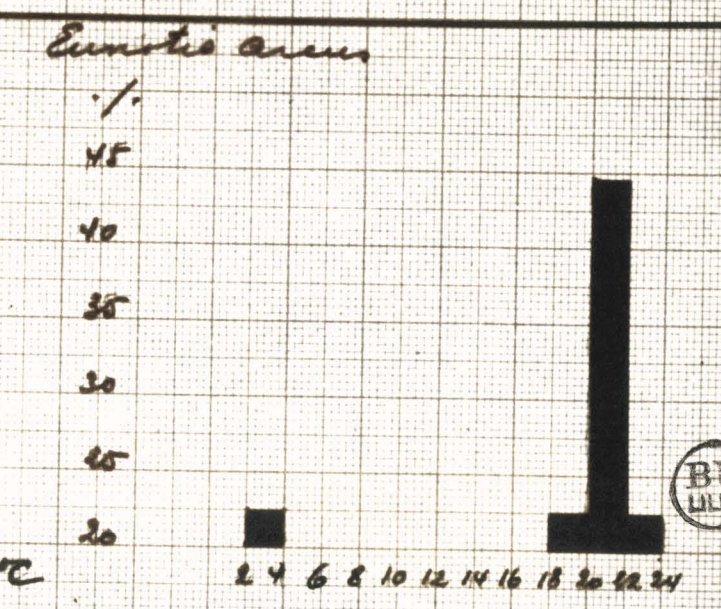
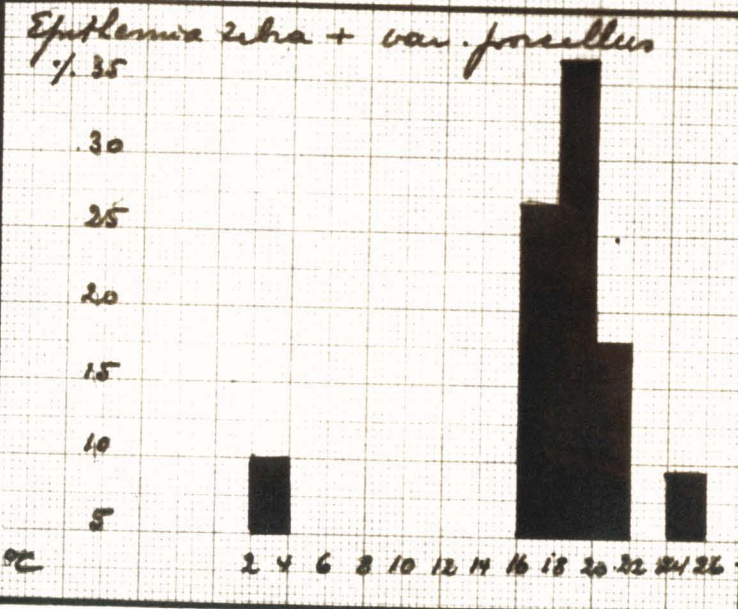
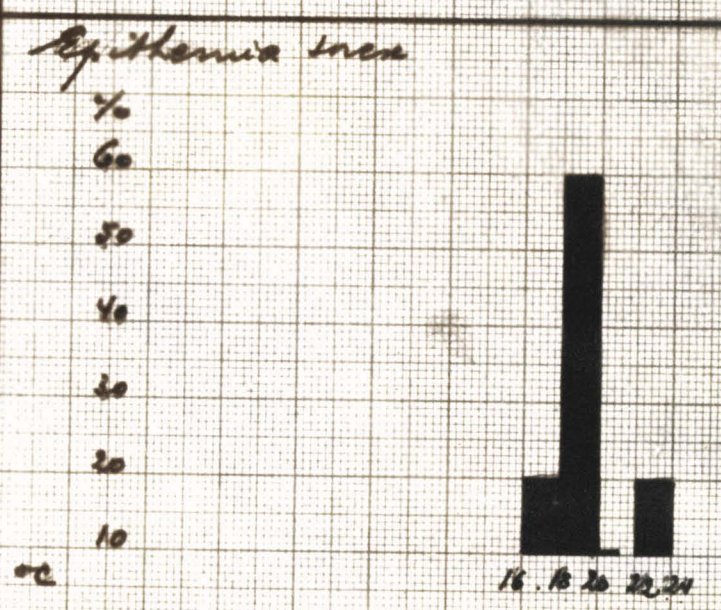
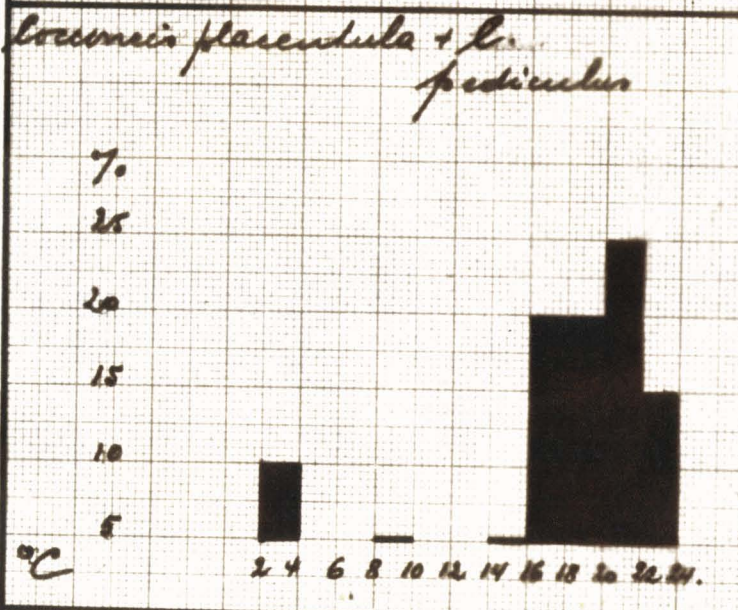
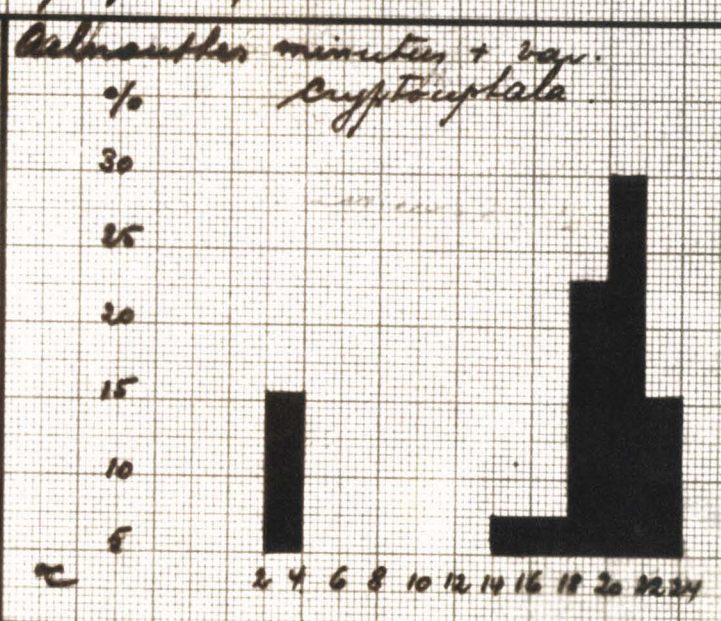
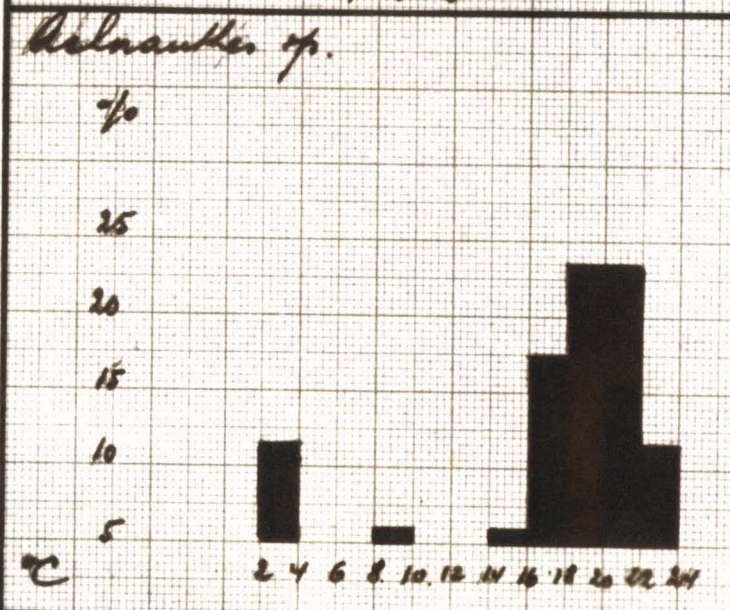
Epithemia rubra + var. *foveolus*



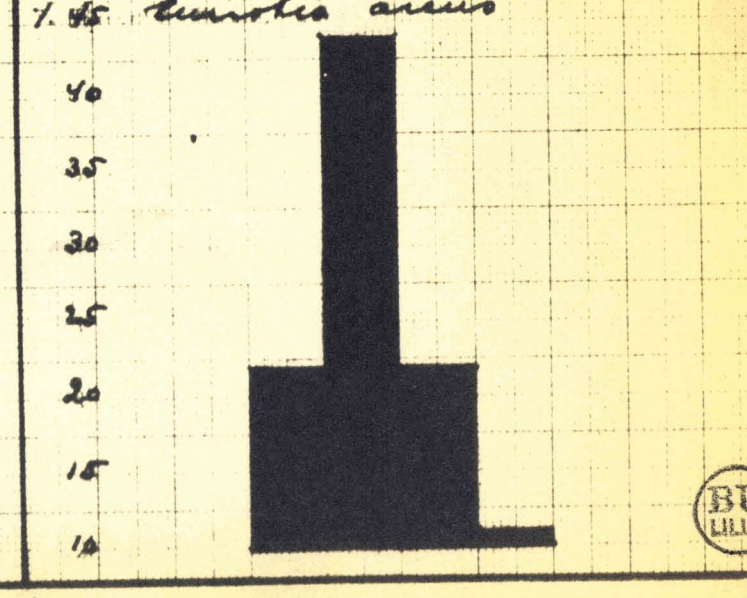
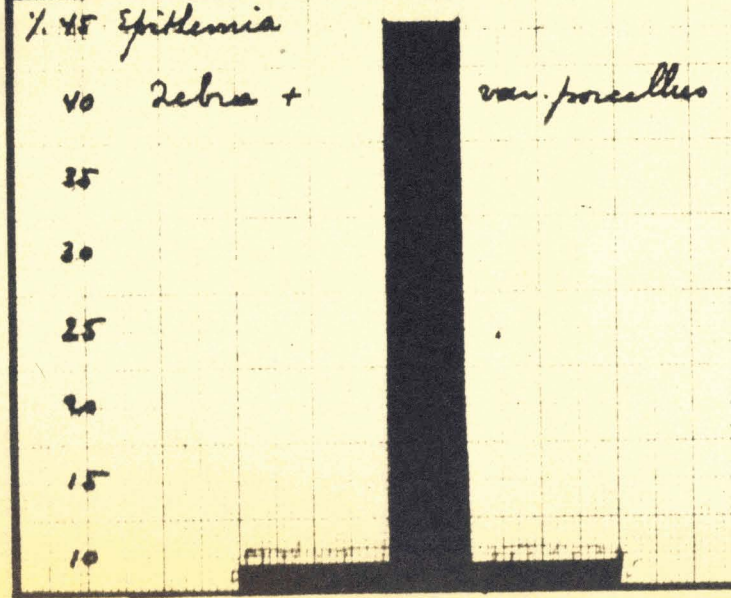
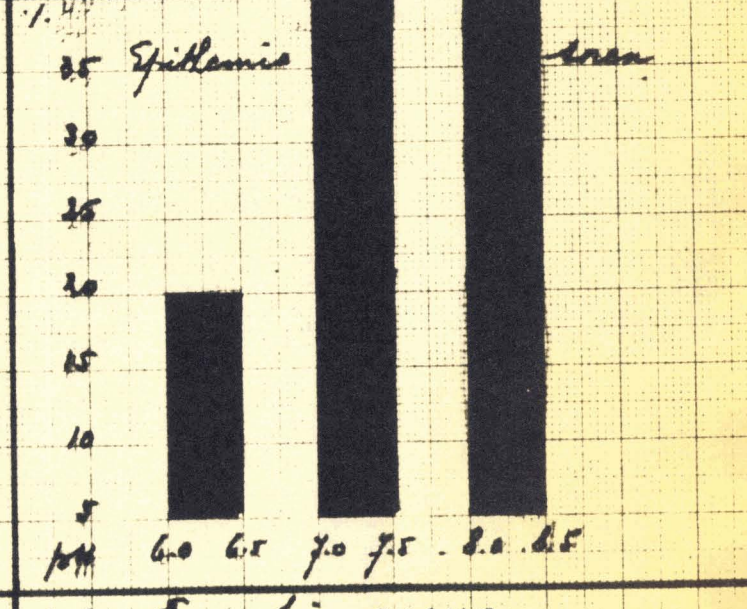
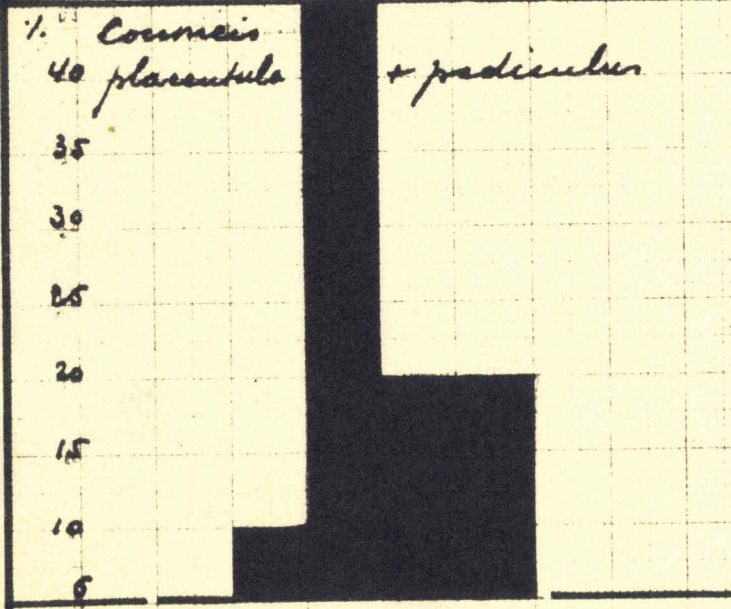
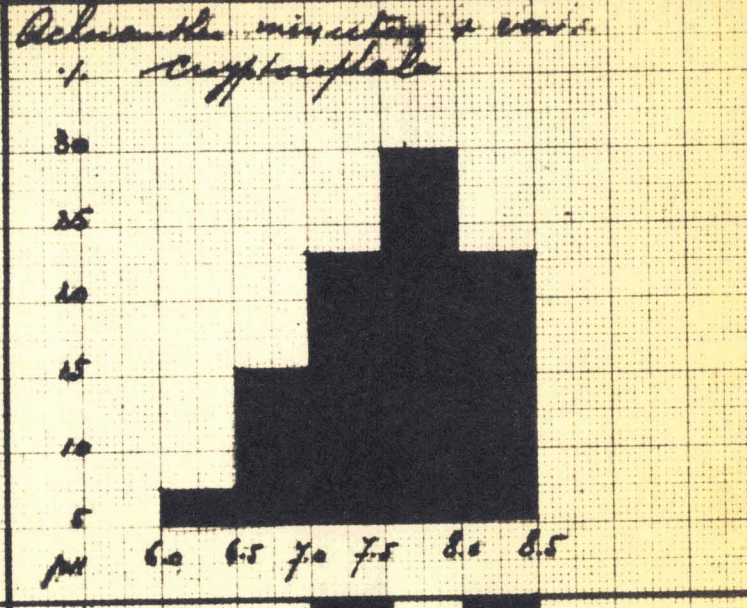
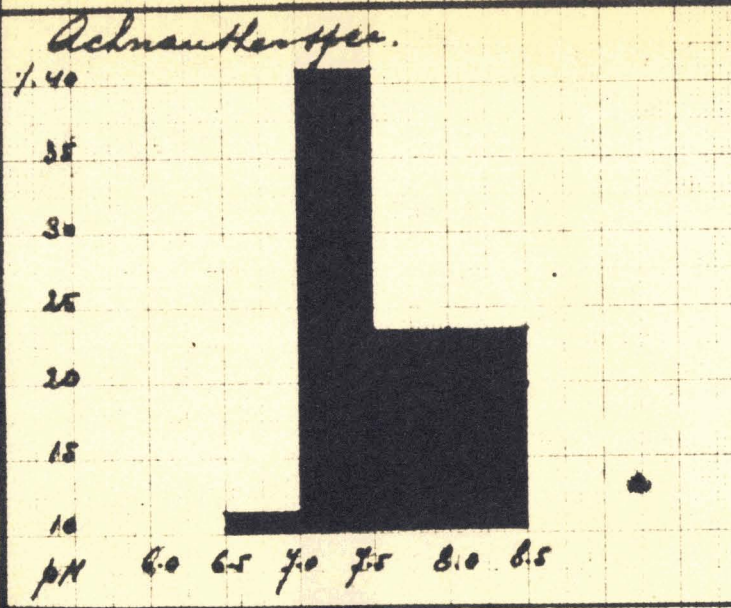
Epithemia arvens



Fréquence des apices par rapport à la température.
 Epiphytes sur *Conatophyllum demersum*



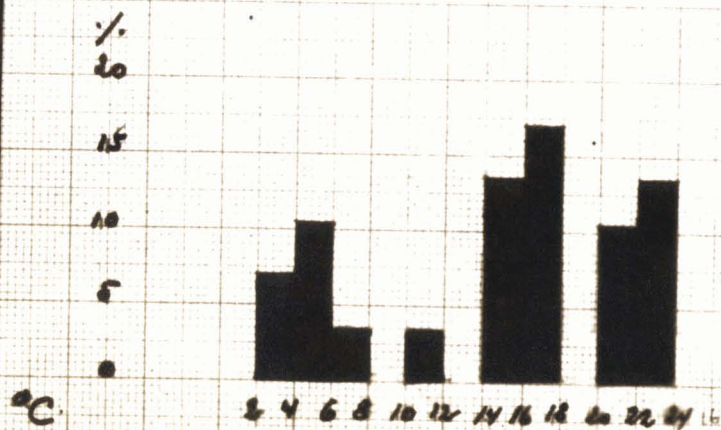
Fréquence des espèces par rapport au pH
 Epiphytes sur *Ceratophyllum demersum*



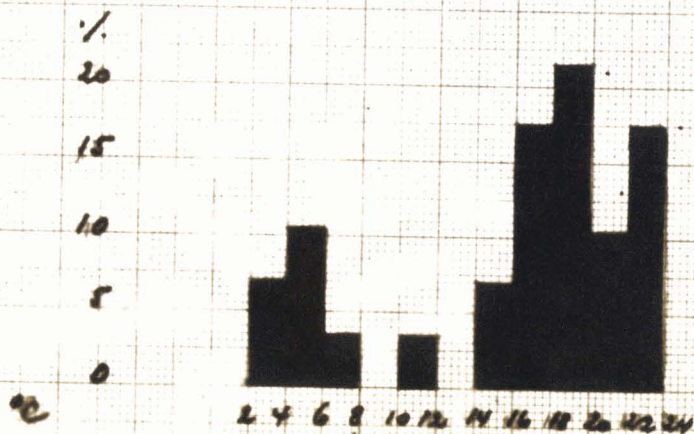
Fréquence des espères par rapport à la température.

Epiphytes sur *Myriophyllum apiculatum*

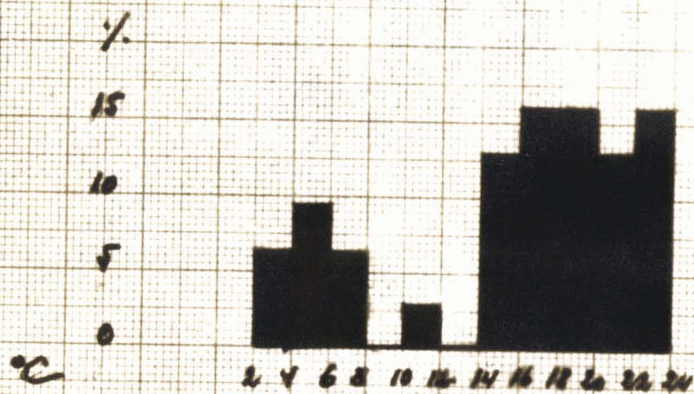
Achnanthes spec.



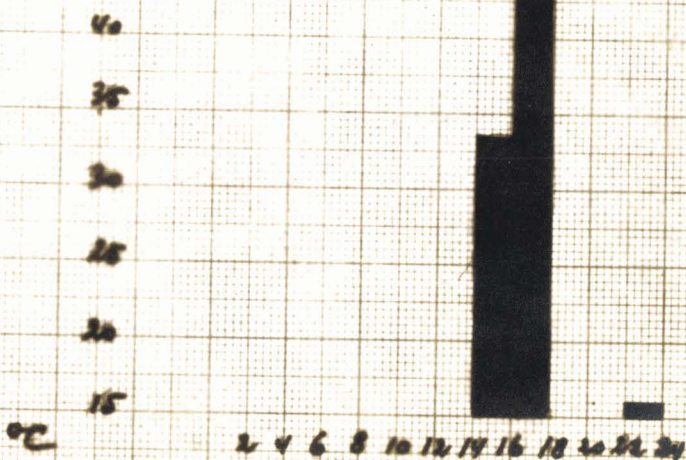
Achnanthes minutum
+ var. *cryptocephala*



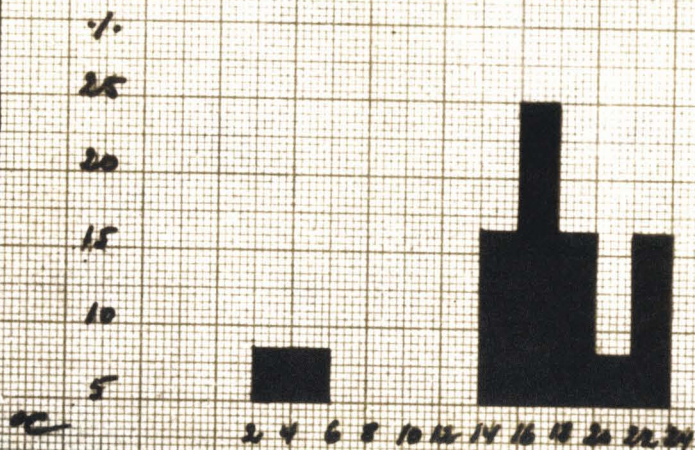
Cocconeis placentula + *C. radiculata*



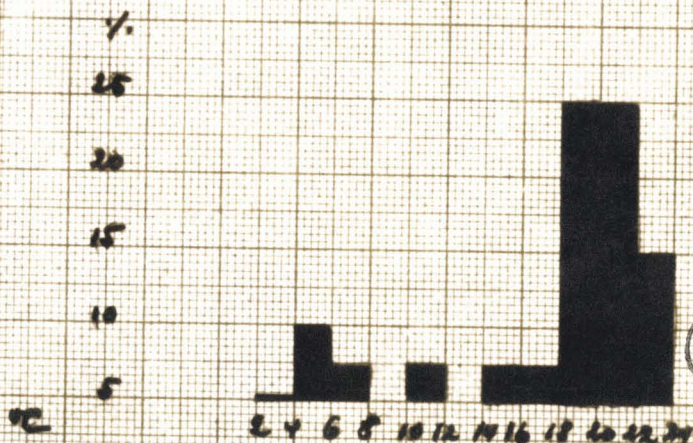
Epithemia spec.



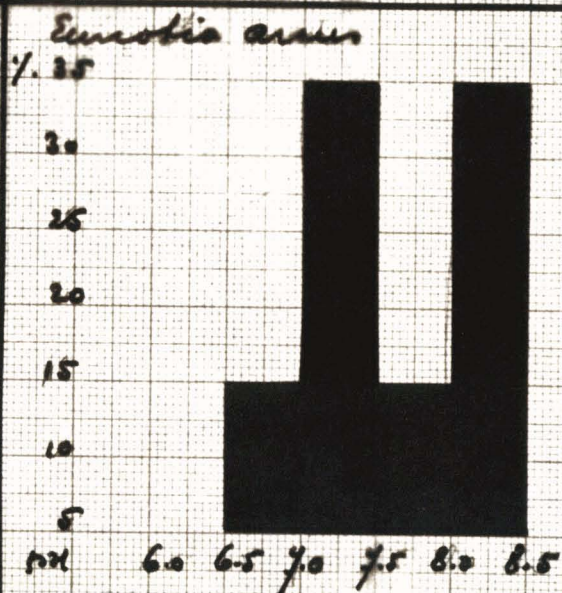
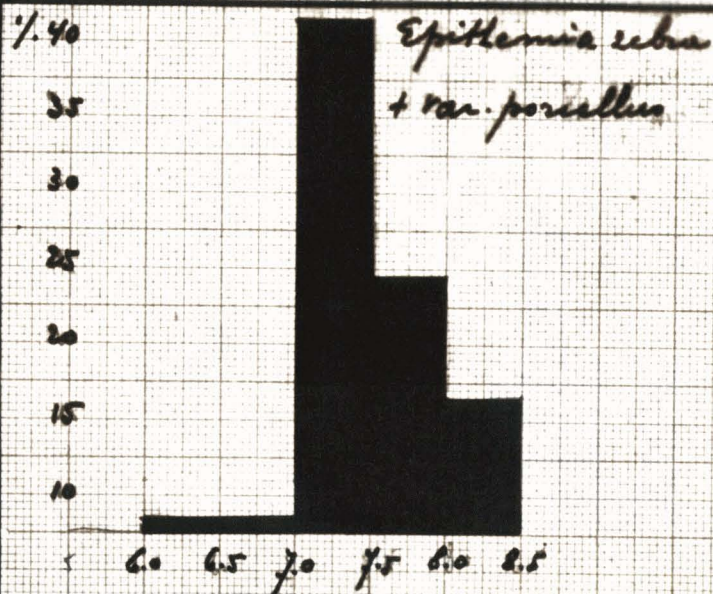
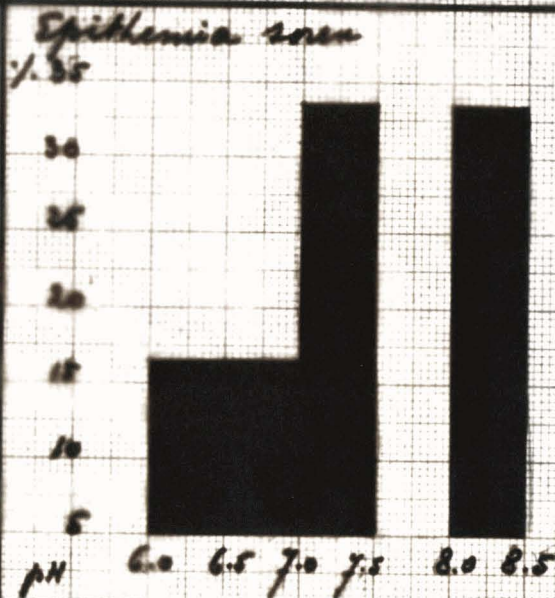
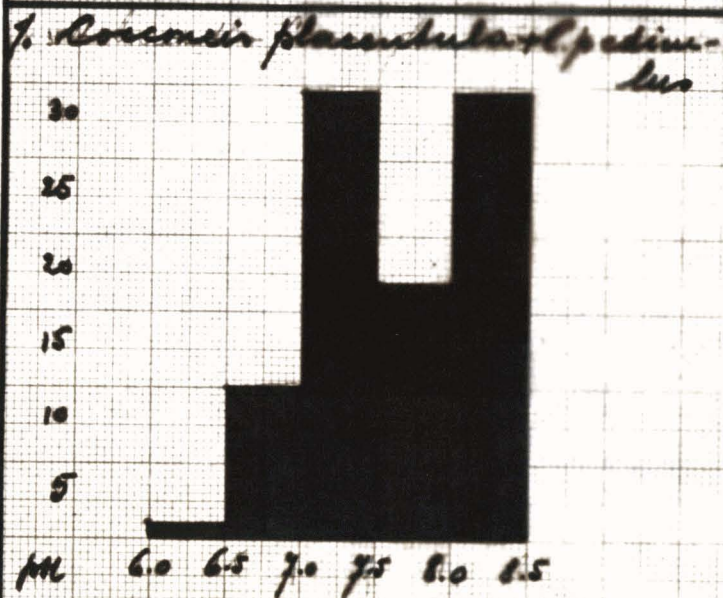
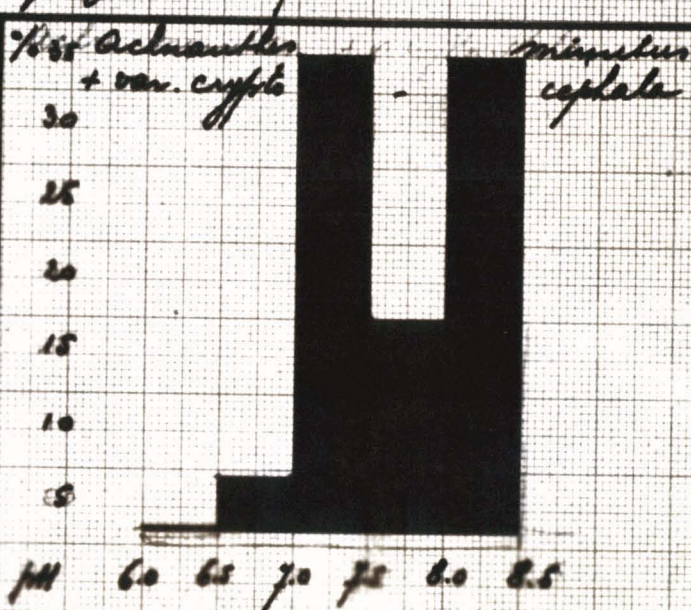
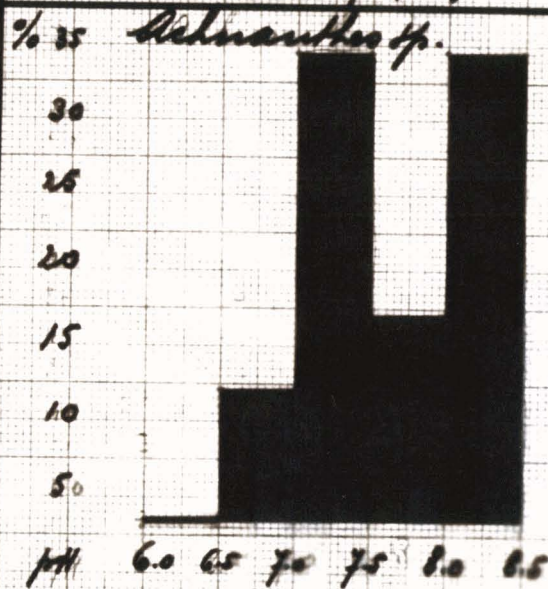
Epithemia spec. + var. *parvulus*



Emotia spec.



Fréquence des espèces par rapport au pH
 Epiphytes sur *Myriophyllum spicatum*

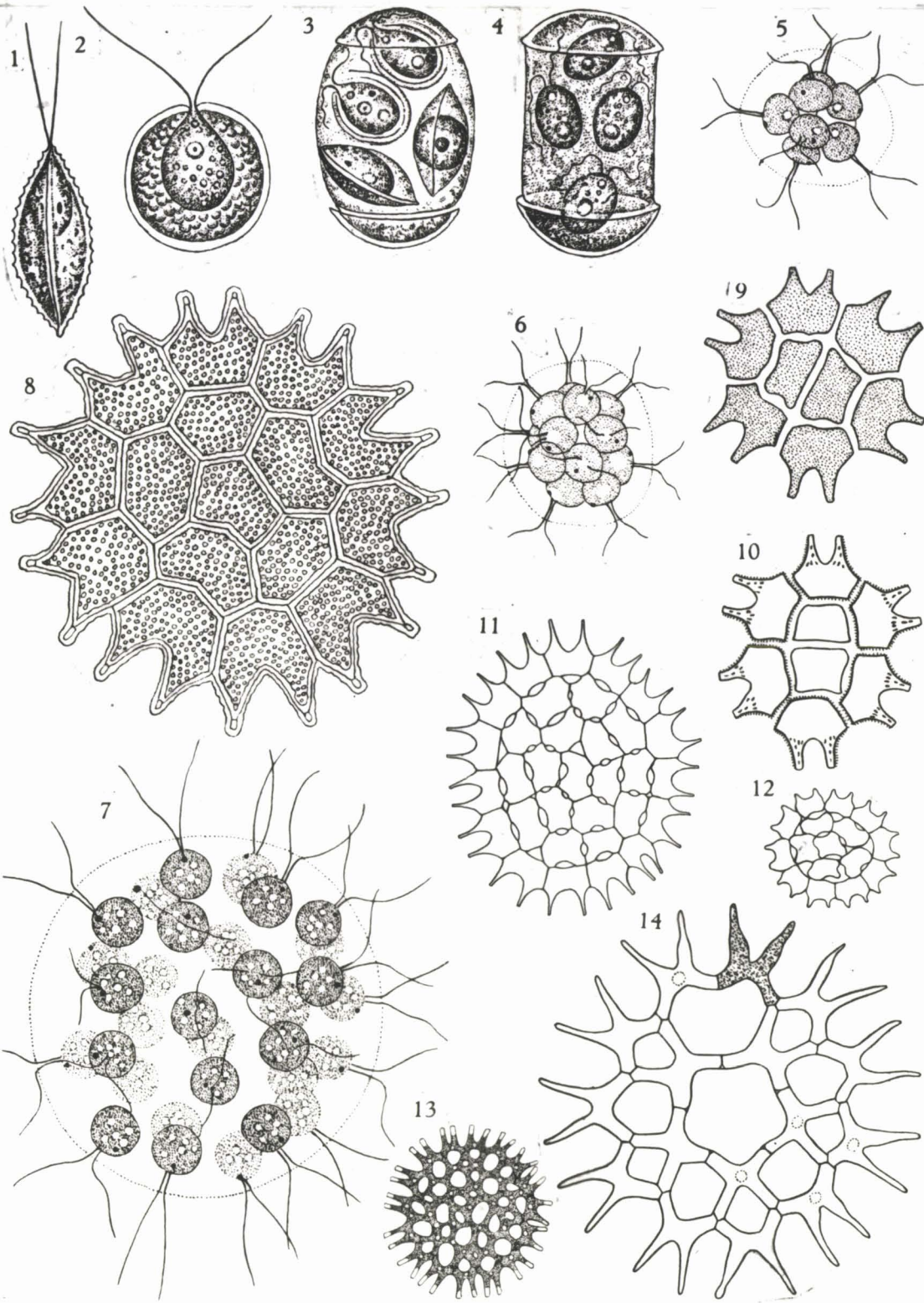


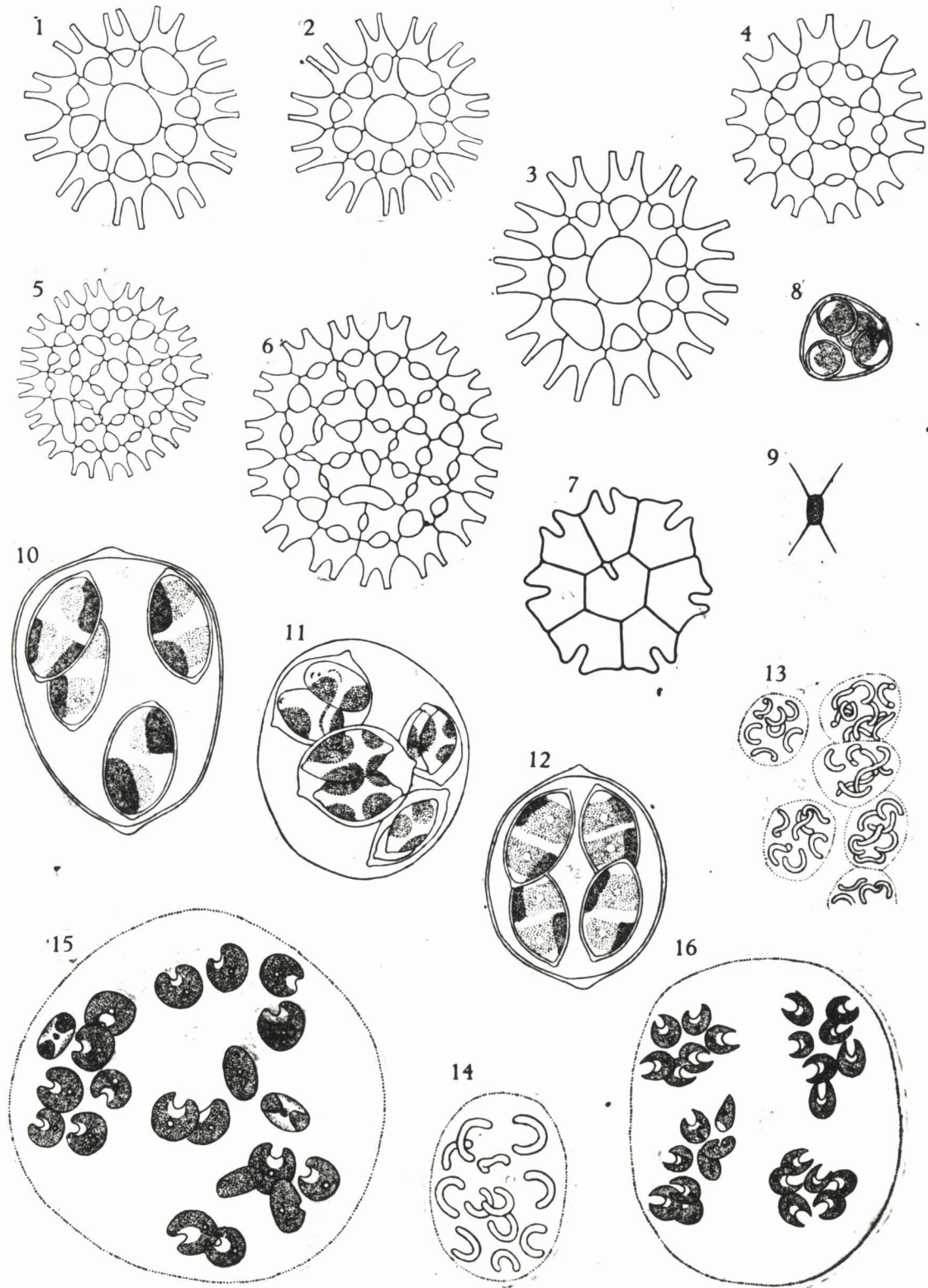
REPRESENTATION

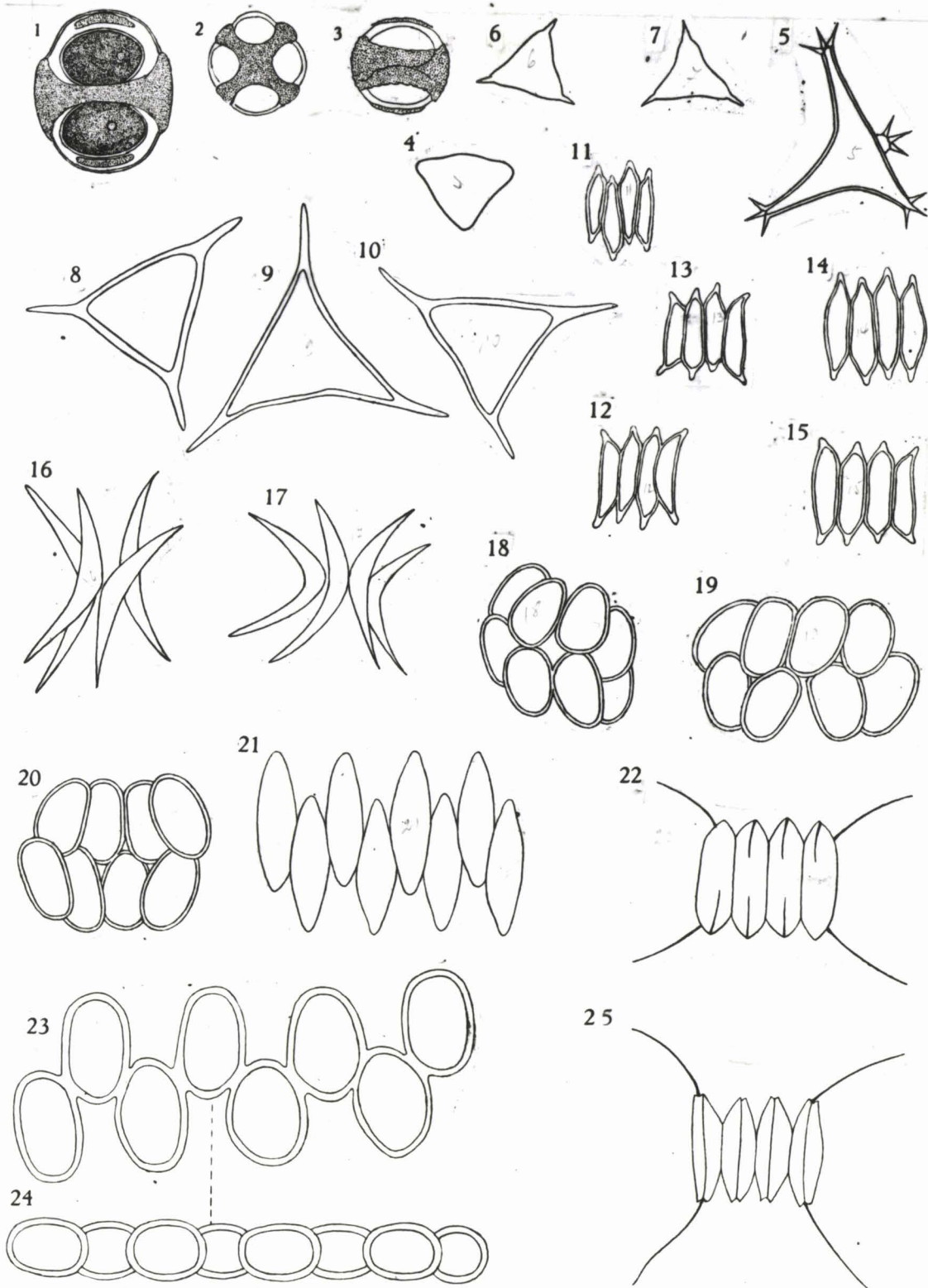
des

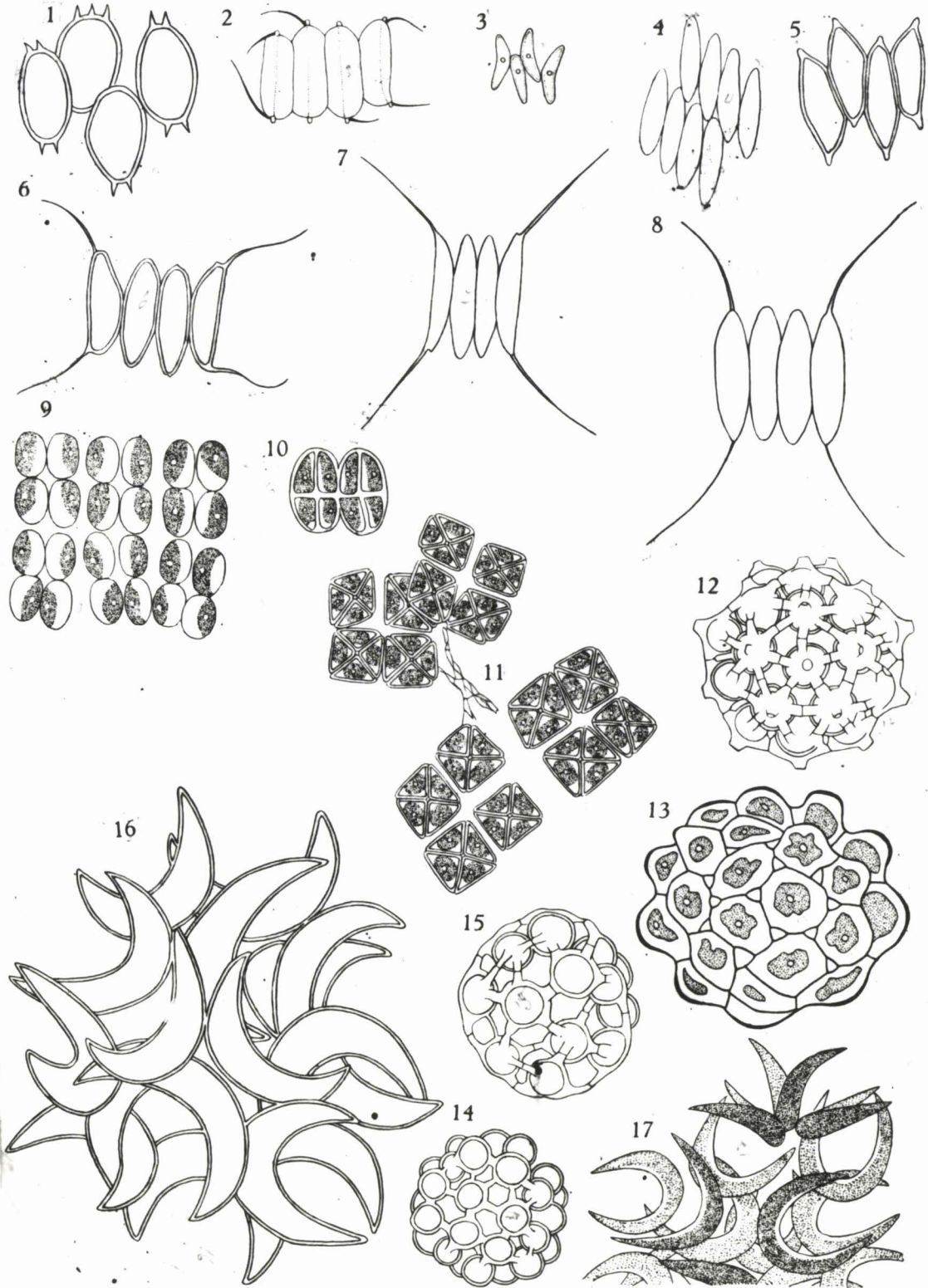
ESPECES

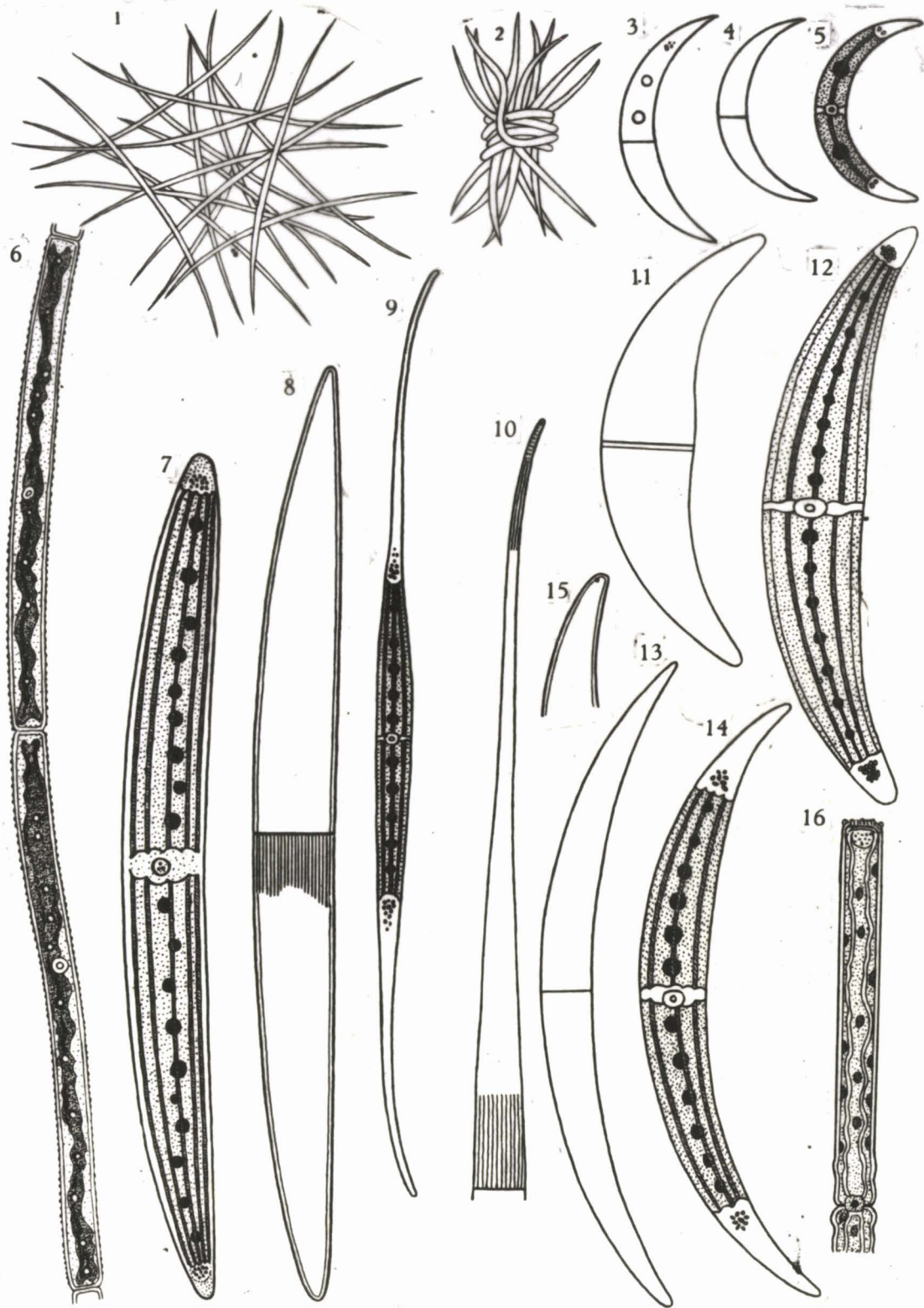
Planches I à XVII

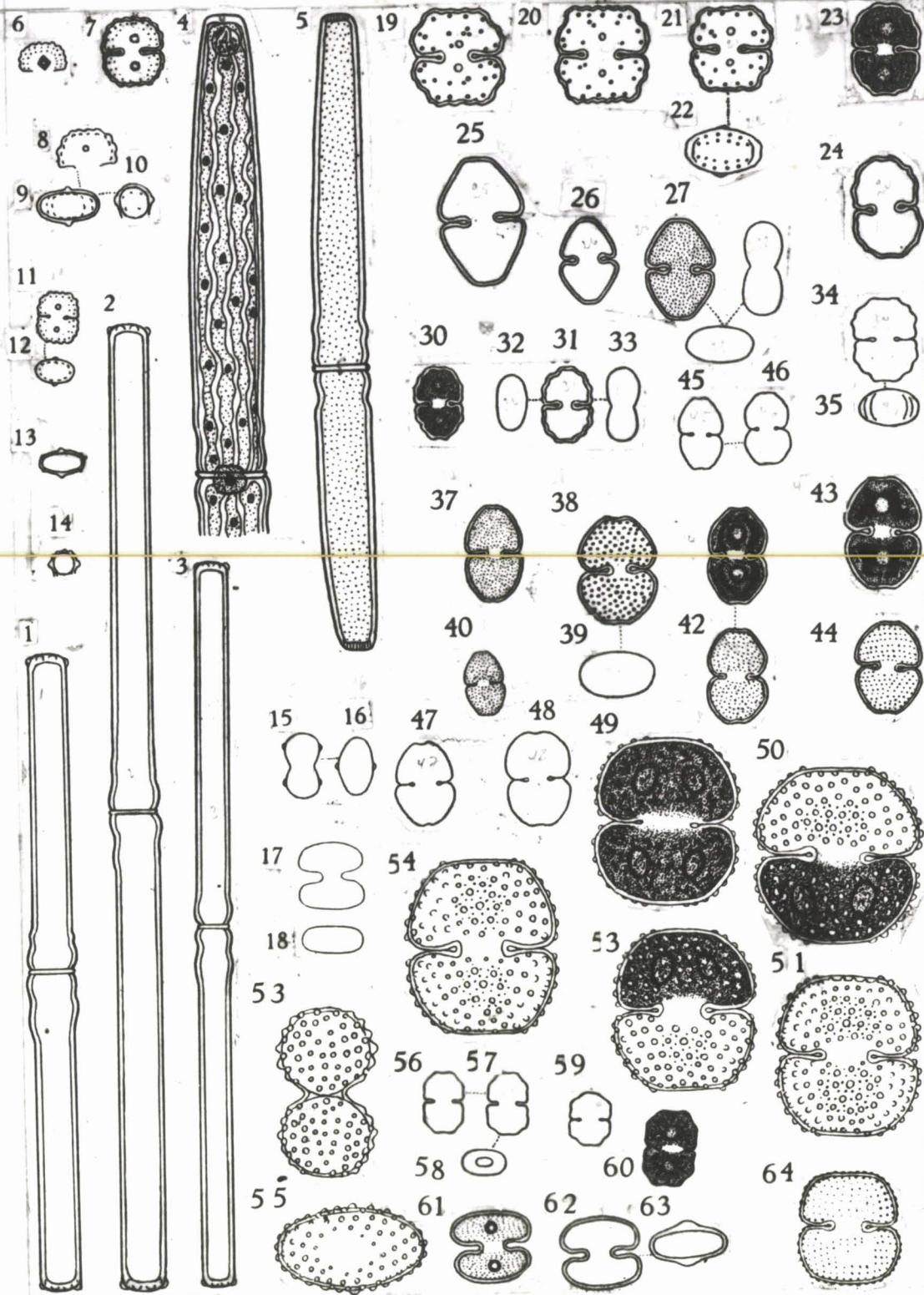


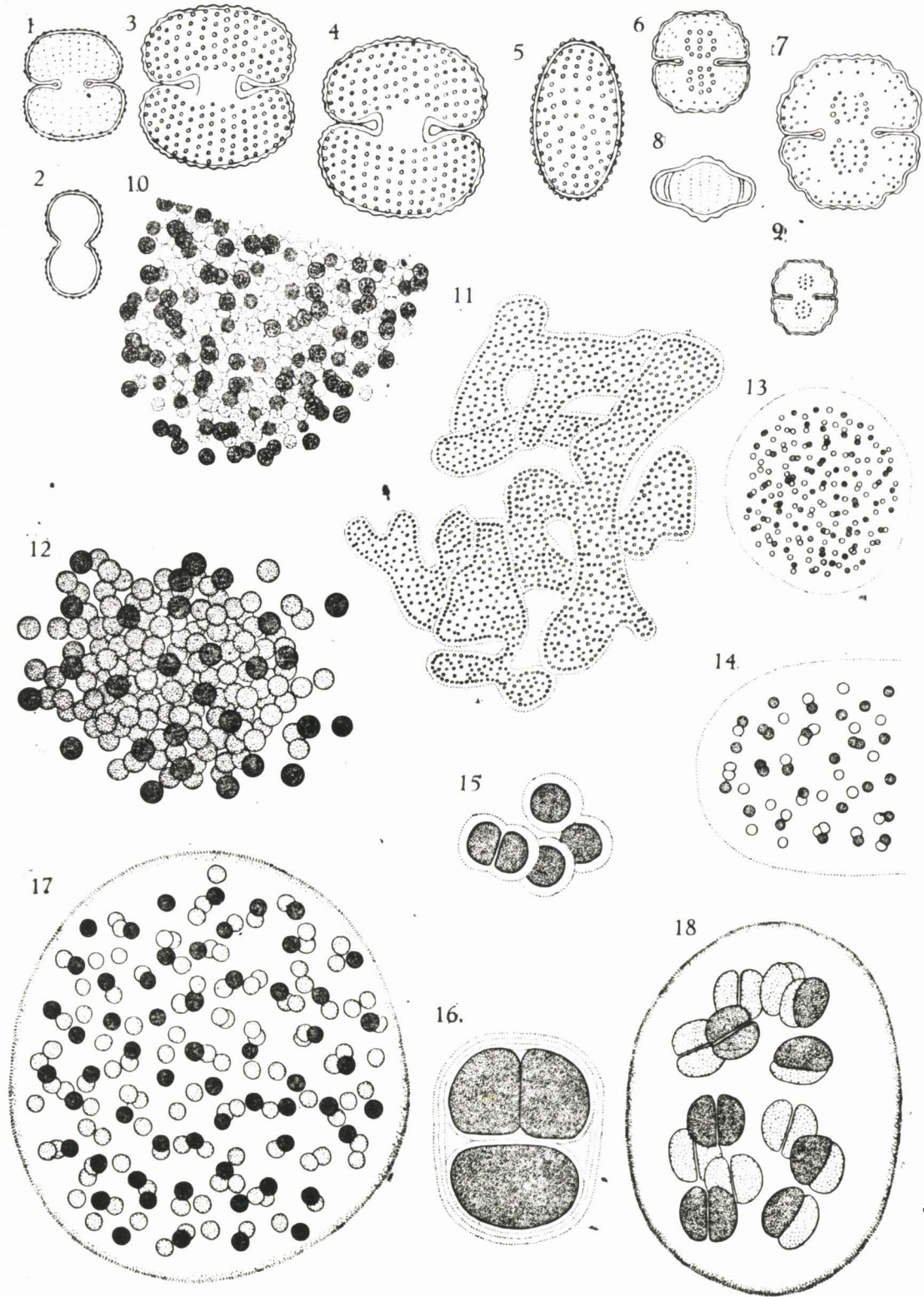


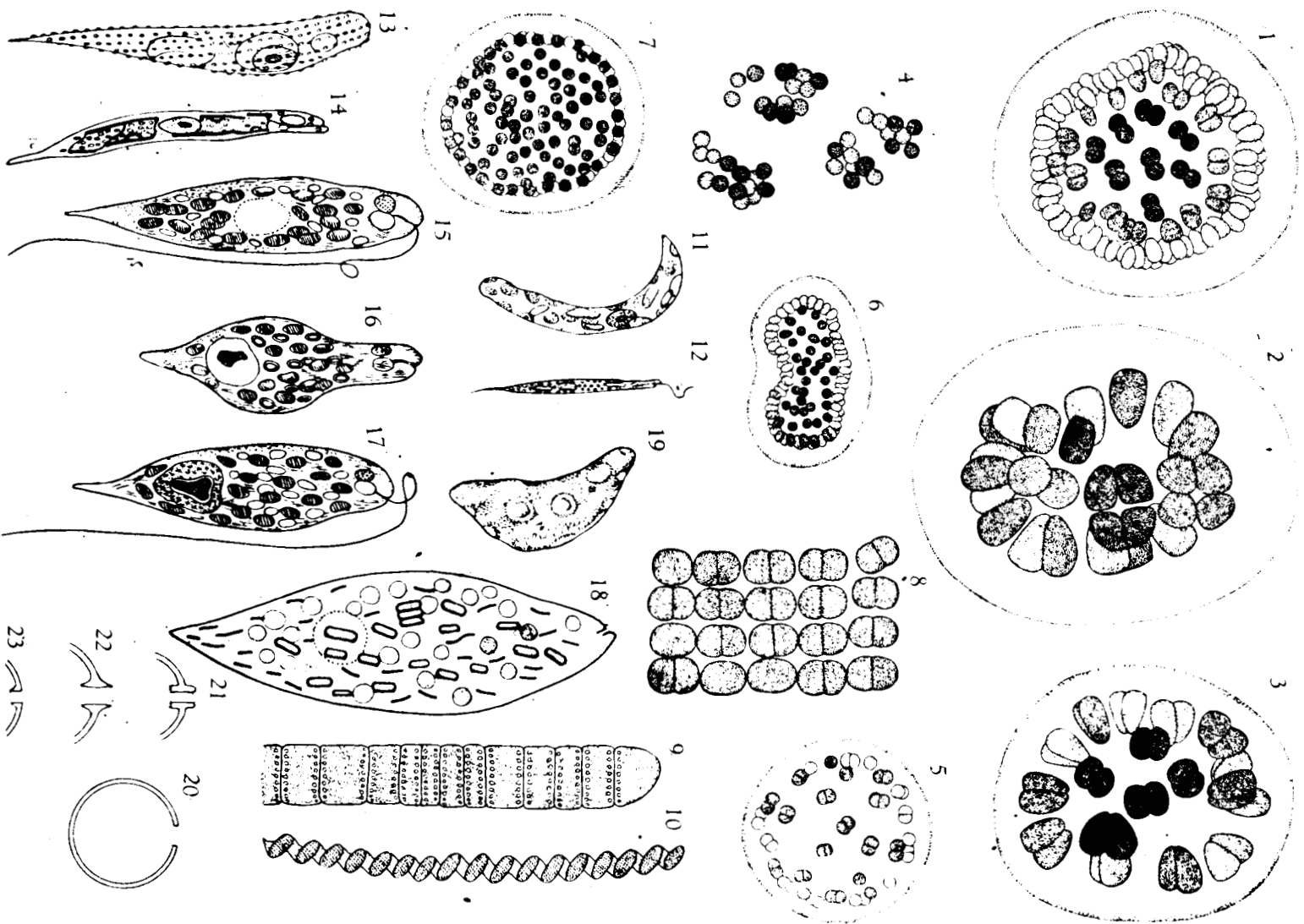


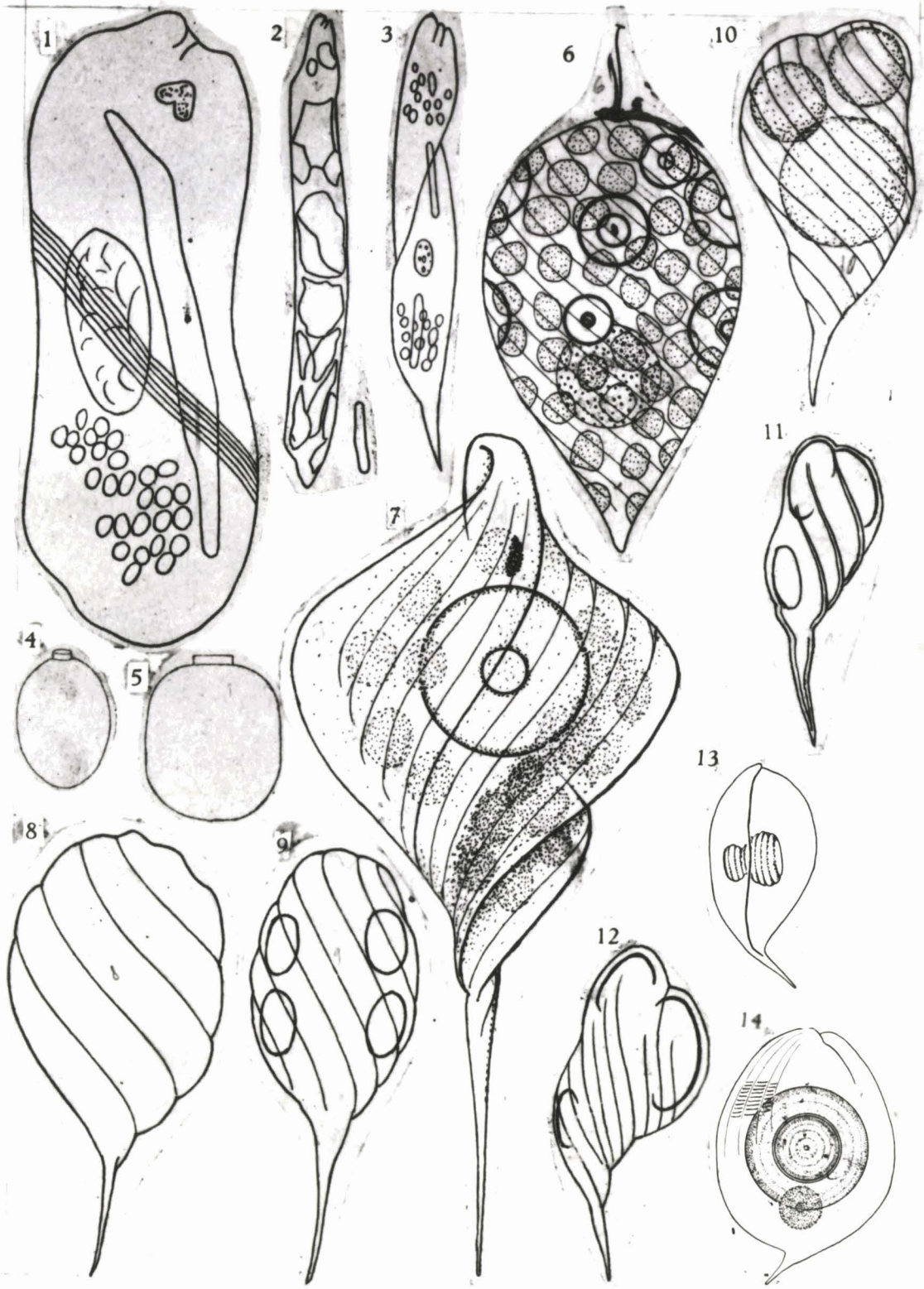


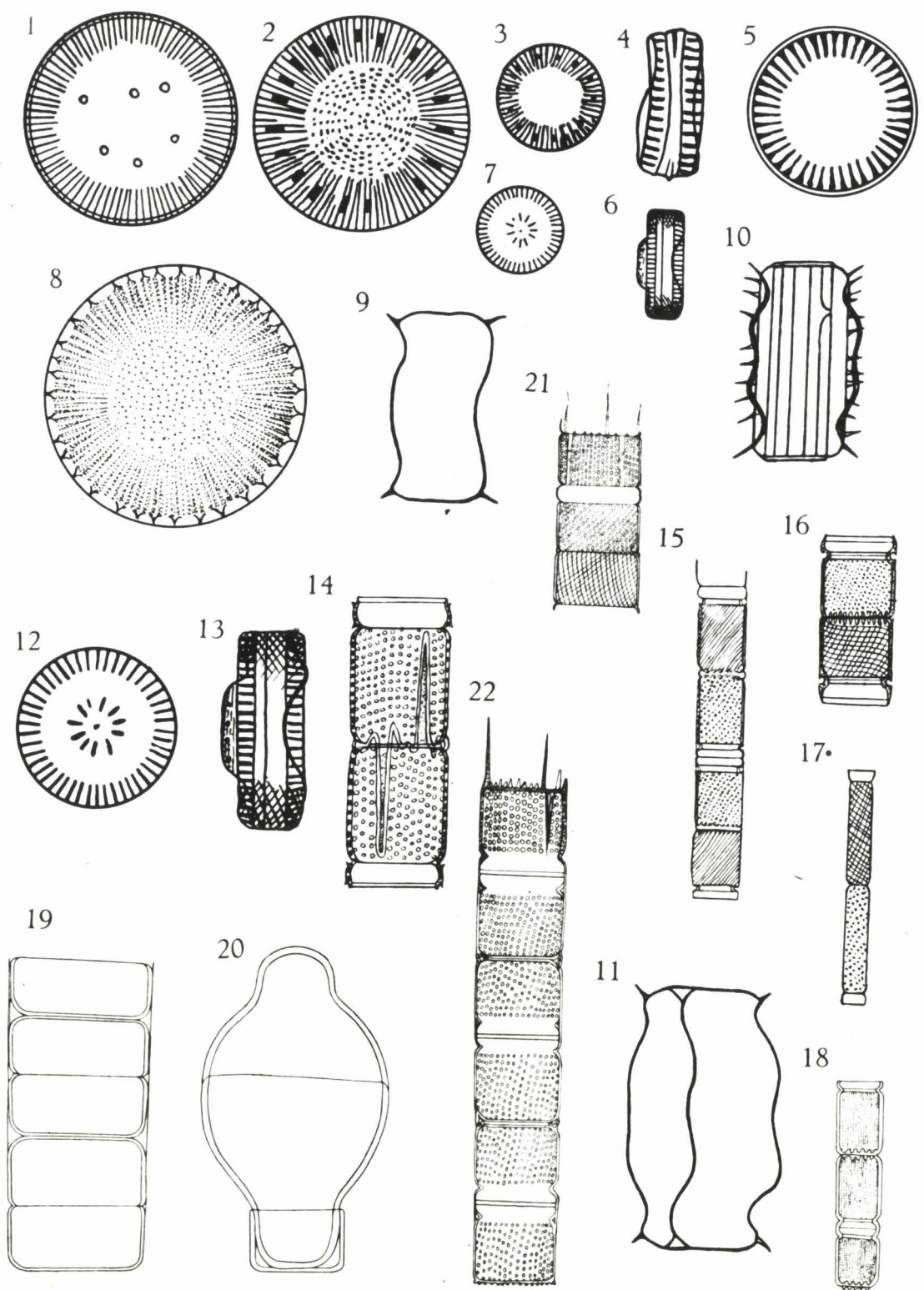


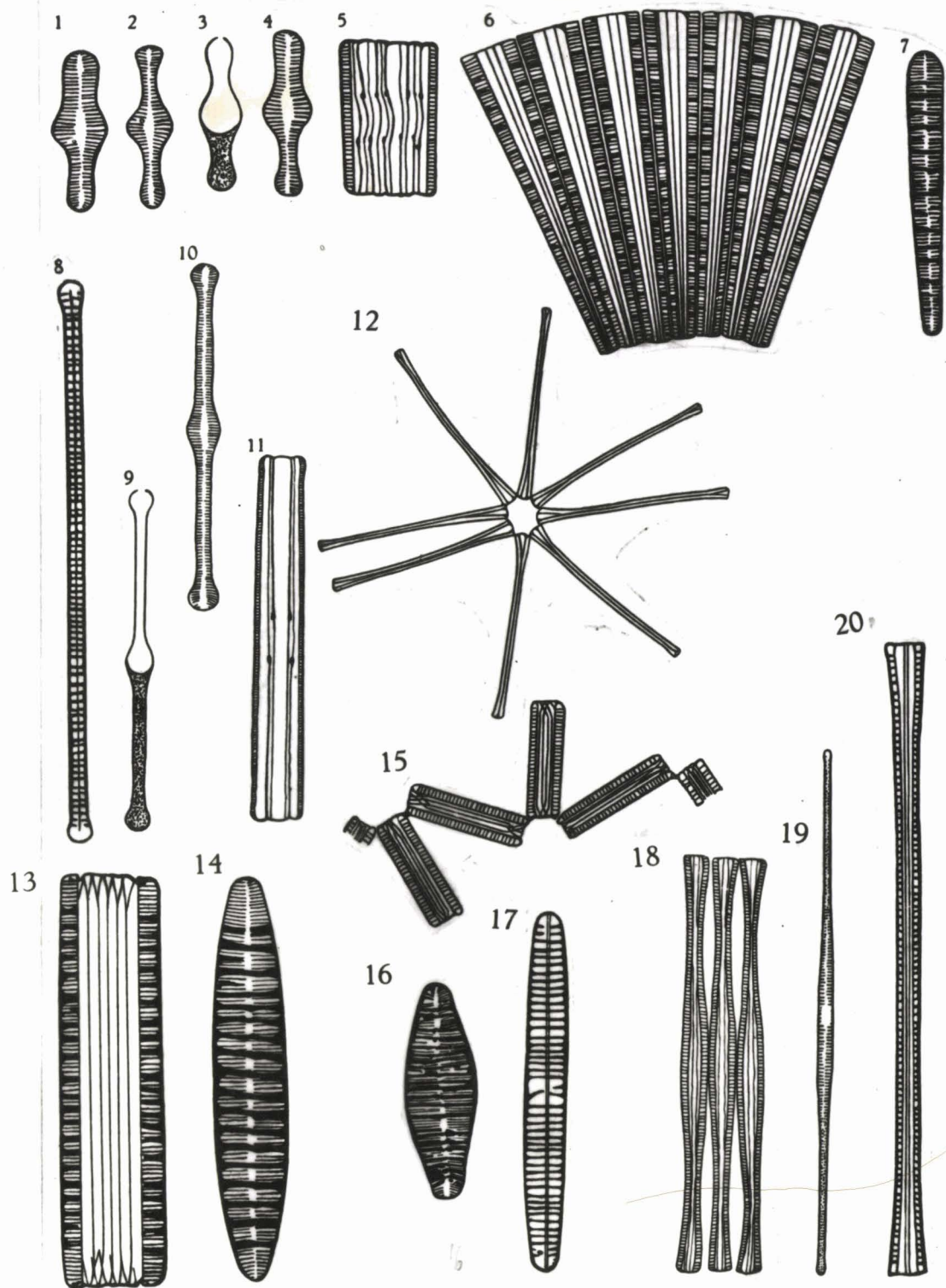




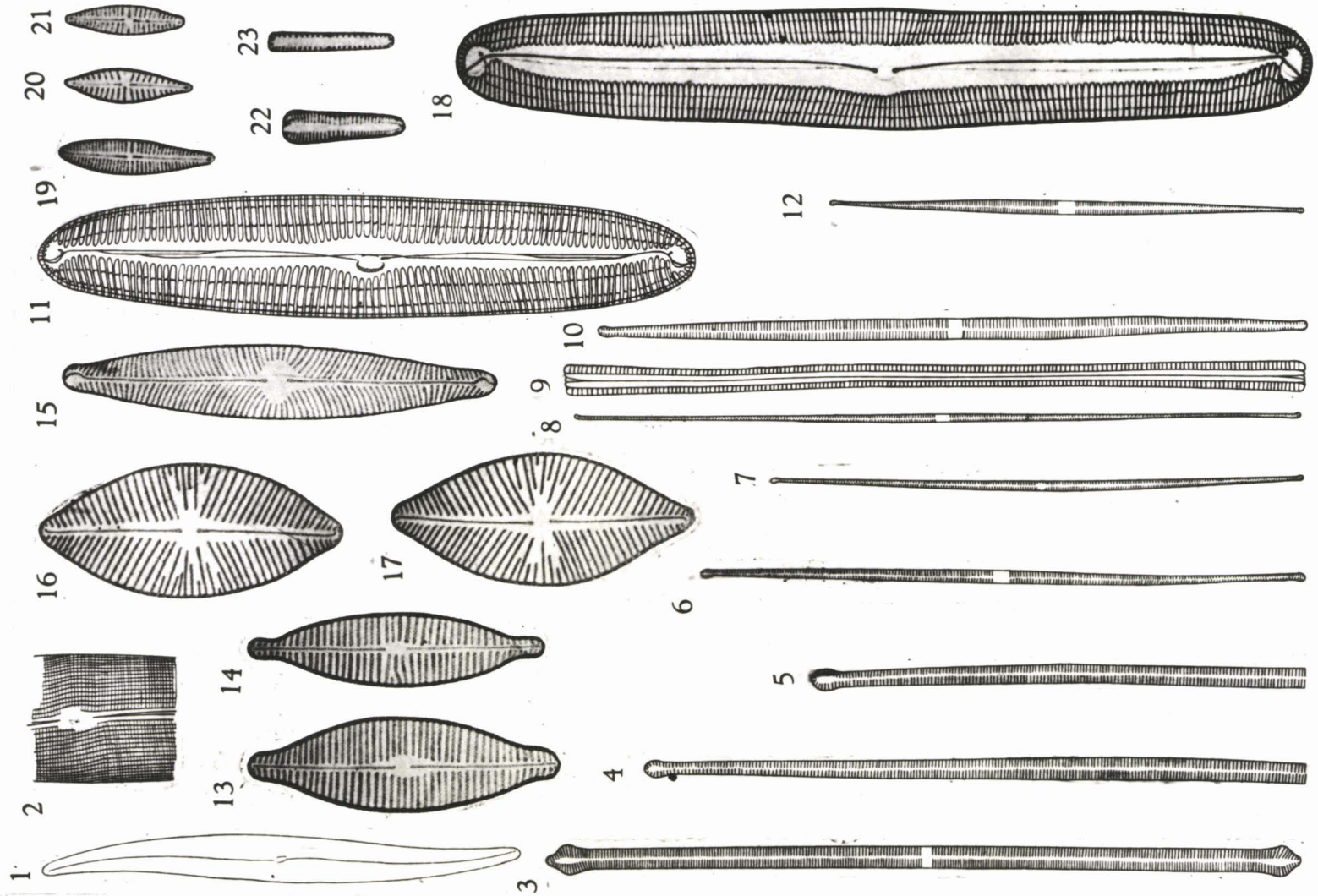


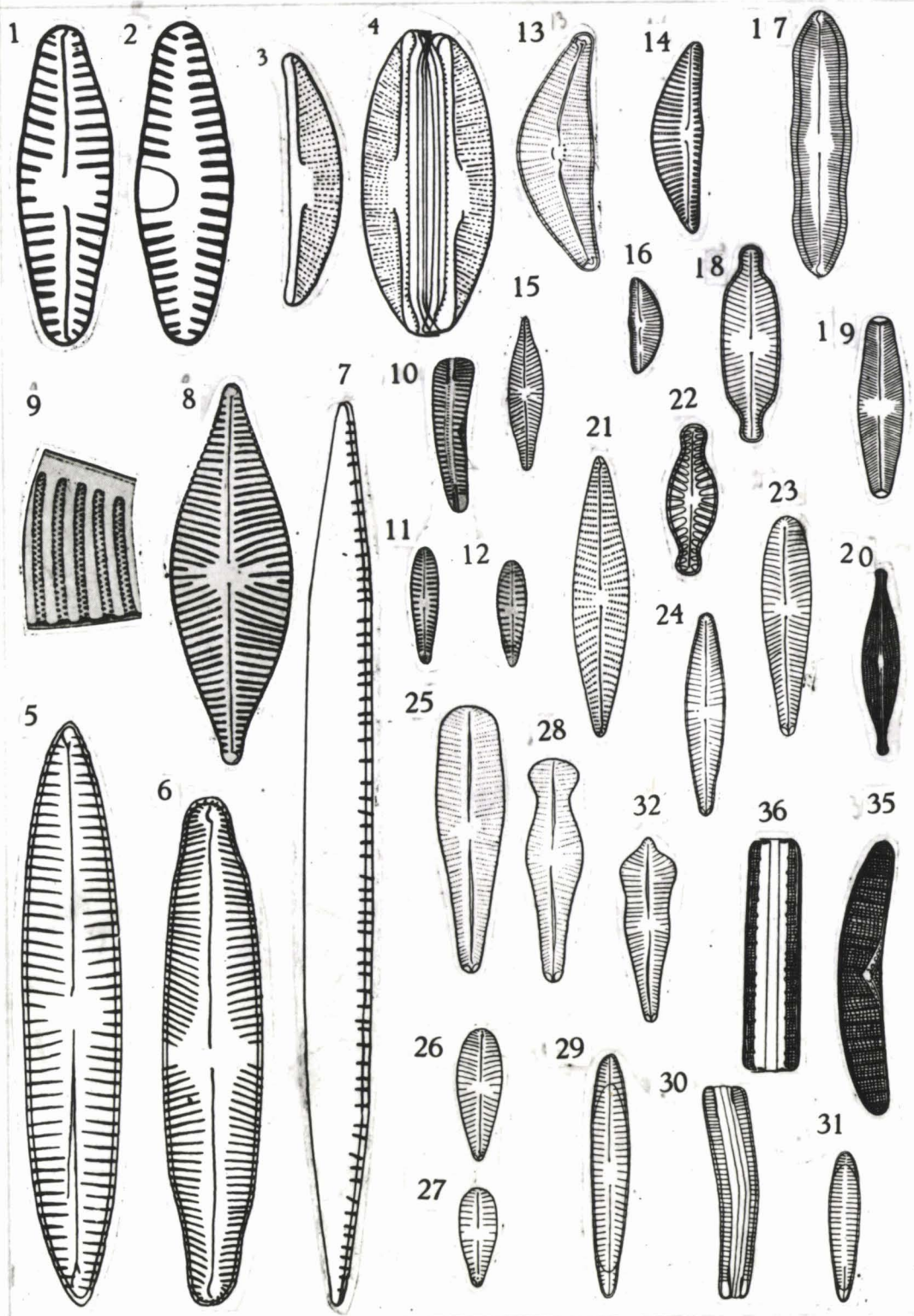


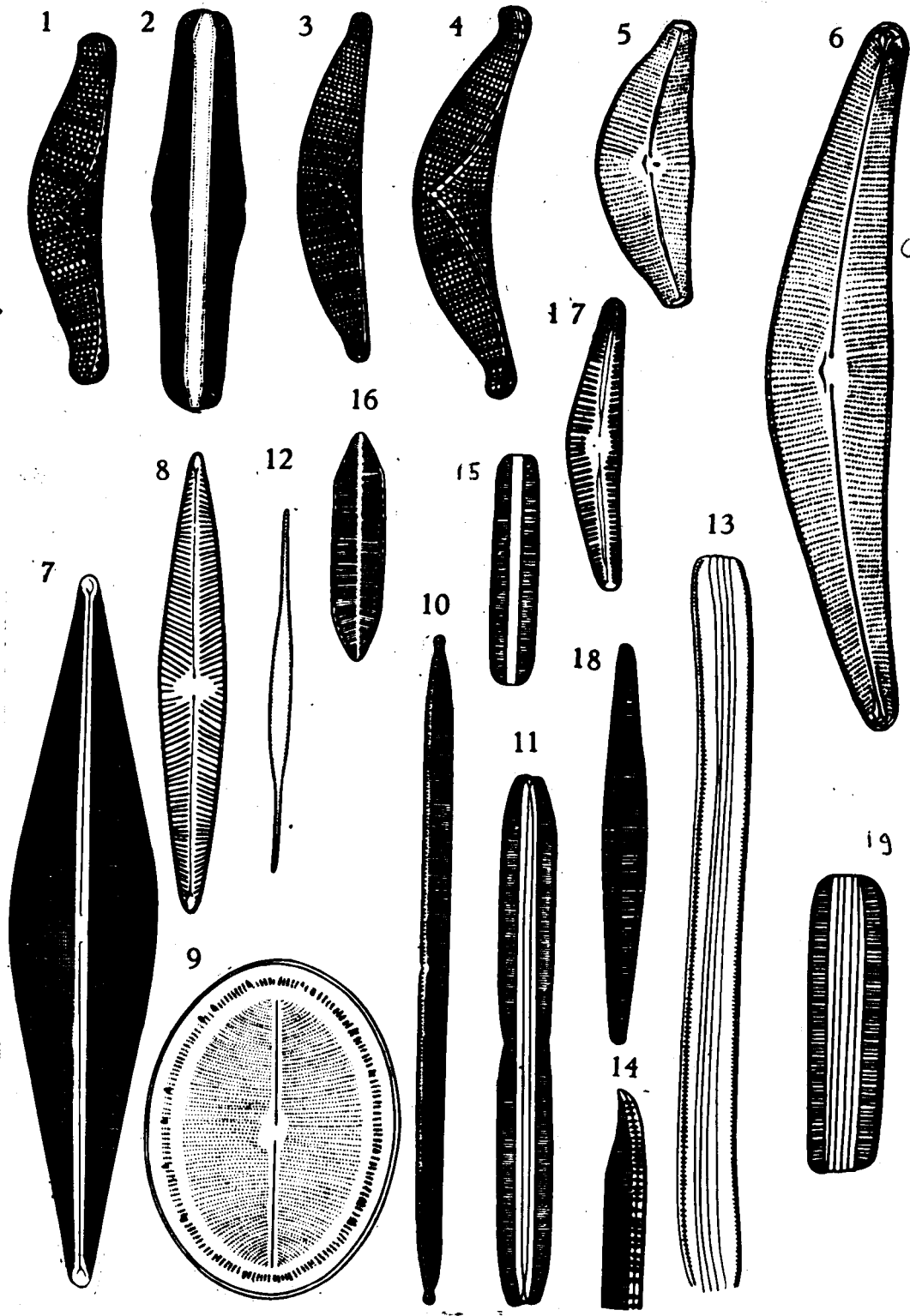




BU
LILLE

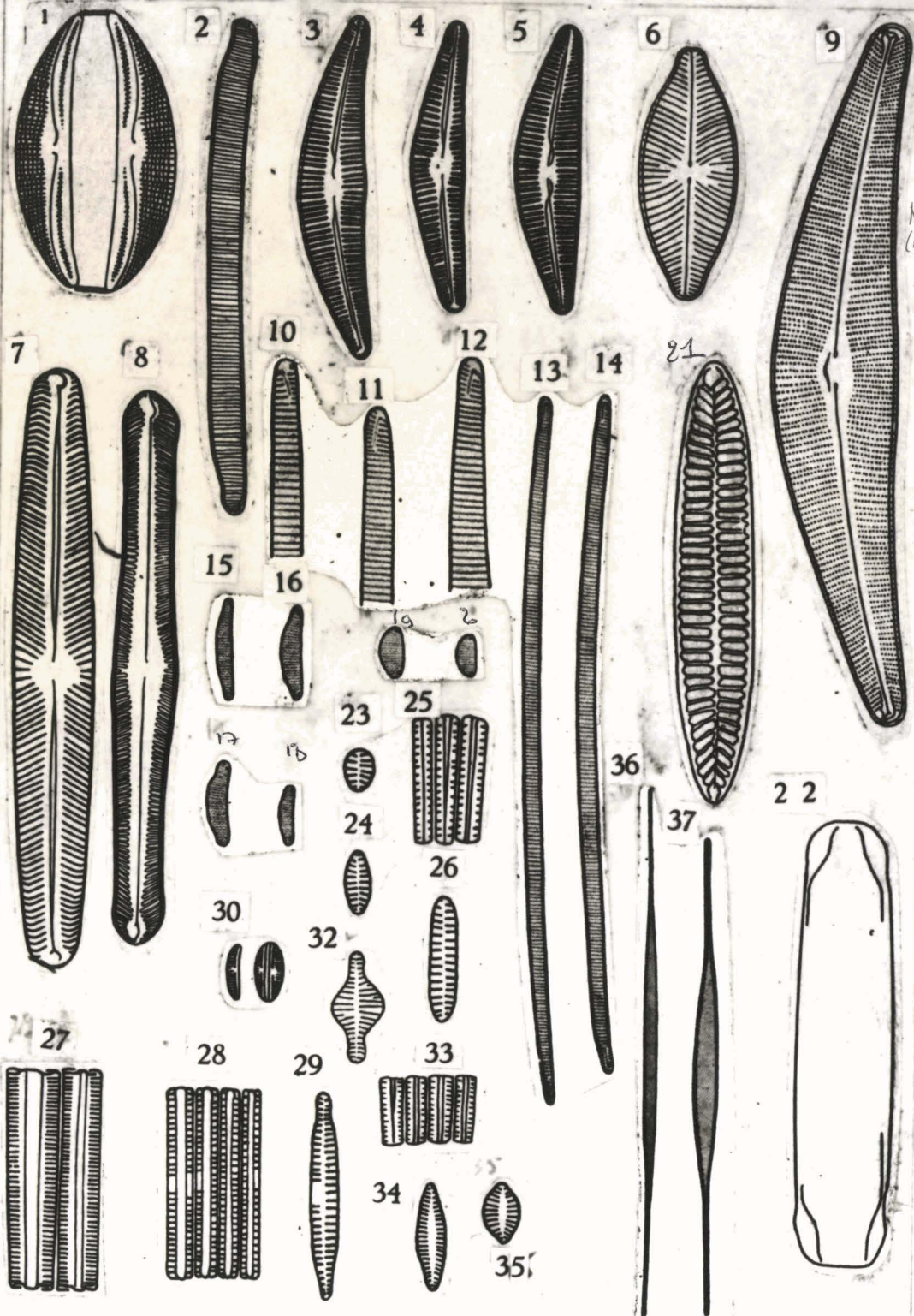






Cymbella lanceolata





Navicula lanceolata
(non) cf. XIV No 6

